LISTING OF ACTIVE FORESTRY AND RANGE-RELATED RESEARCH PROJECTS IN BRITISH COLUMBIA

1st REVISION

Prepared by

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FOREWORD

This revised inventory has been compiled to provide a consolidated listing of forestry-related research projects now active in the Province. It is stored on a word-processor so that up-dating or correction is straightforward and partial lists can readily be extracted: for example, we can extract all Douglas-fir projects, or all projects in a geographical area, or all entomological projects, and so on. The lists are based on information available at the time of going to press, however notifications of errors or omissions will be welcome.

This inventory is arranged in two Parts. The first lists research projects or experiments; the second lists observational trials and recording of data. In Part I projects are arranged in chronological sequence from seed to finished product. Ecology is considered as a component of the initial wood fibre section which is followed by sections on non-timber uses - range, wildlife, fisheries and recreation. Coding in Part II is a simplified version.

The identification codes allow for unlimited sub-division as appropriate.

I am very grateful to all the contributors and respondents who have been so generous with their time in helping compile and revise the inventory.

R.M. Strang
Executive Director

PART I: Experimental Projects

FORESTRY DISCIPLINE OR AREA SUBDIVISION CODE

1.0.0.0 TIMBER, WOOD FIBRE PRODUCTION

- 1.1.0.0 Seed production and genetics
  - 1.1.1.0 Plus trees, selection of
    - 1.1.1.1 location of
  - 1.1.2.0 Seed tree physiology
  - 1.1.3.0 Propagation technology, grafting, rooting
  - 1.1.4.0 Seed production, cone production
  - 1.1.5.0 Seed extraction and storage
  - 1.1.6.0 Provenance testing and progeny testing
  - 1.1.7.0 Pollen studies
    - 1.1.7.1 identification
    - 1.1.7.2 storage
  - 1.1.8.0 Tree breeding
- 1.2.0.0 Nursery practice
  - 1.2.1.0 Beds, bare-root nurseries
  - 1.2.2.0 Containers, container nurseries
  - 1.2.3.0 Substrate
  - 1.2.4.0 Seeding and seedlings
    - 1.2.4.1 seeding rates
    - 1.2.4.2 germination
    - 1.2.4.3 growth and development
  - 1.2.5.0 Transplanting and espacement
  - 1.2.6.0 Root pruning
  - 1.2.7.0 Weeding
  - 1.2.8.0 Lifting and storing
- 1.3.0.0 Reforestation
  - 1.3.1.0 Site preparation
    - 1.3.1.1 mechanical
    - 1.3.1.2 by fire
    - 1.3.1.3 by chemicals
  - 1.3.2.0 Seeding
    - 1.3.2.1 natural
    - 1.3.2.2 artificial
  - 1.3.3.0 Planting, Artificial Regeneration
    - 1.3.3.1 manual
    - 1.3.3.2 mechanical
    - 1.3.3.3 espacement
    - 1.3.3.4 physiology
    - 1.3.3.5 comparisons
  - 1.3.4.0 Choice of species

1.4.0.0 Tending

1.4.1.0 Weeding and cleaning
1.4.2.0 Juvenile spacing
1.4.3.0 Thinning
1.4.4.0 Pruning
1.4.5.0 Protecting
1.4.5.1 animals except man
1.4.5.2 man
1.4.5.3 fire
1.4.5.4 insects
1.4.5.5 disease
1.4.6.0 Fertilizing
1.4.6.1 biological N fixation
1.4.7.0 Tree physiology
1.4.7.1 cone production
1.4.8.0 Tree nutrition
1.4.8.1 foliar analysis

1.5.0.0 Mensuration

1.5.1.0 Ground techniques
1.5.2.0 Photogrammetry and Remote Sensing
1.5.3.0 Dendrochronology

1.6.0.0 Felling

1.6.1.0 Clear-felling
1.6.1.1 techniques
1.6.1.2 impact on regeneration
1.6.1.3 impact on habitat
1.6.1.4 wastage and loss
1.6.2.0 Shelterwoods
1.6.2.1 techniques
1.6.2.2 impact on regeneration
1.6.2.3 impact on habitat
1.6.3.0 Selection system
1.6.3.1 techniques
1.6.3.2 impact on region
1.6.3.3 impact on habitat

1.7.0.0 Extracting

1.7.1.0 Techniques
1.7.2.0 Effects on regeneration
1.7.3.0 Accessibility

1.8.0.0 Transporting

1.8.1.0 By road
1.8.2.0 By water
1.8.3.0 Other
1.8.3.1 balloon
1.8.3.2 helicopter
1.8.3.3 skycrane

1.9.0.0 Processing

1.9.1.0 Lumber
1.9.2.0 Plywood and veneers
1.9.2.1 adhesives
1.9.3.0 Pulpwood
1.9.4.0 Particleboard
1.9.5.0 Other
1.9.5.1 poles
1.9.5.2 Christmas trees
1.9.5.3 fuel
1.9.5.4 hardwoods
1.9.5.5 shakes and shingles
1.9.6.0 Chemistry
1.9.7.0 Energy
1.9.8.0 Other
1.9.9.0 Preservatives
1.9.10.0 Health & Safety

1.10.0.0 Ecology

1.10.1.0 Processes and succession, forest dynamics
1.10.2.0 Mapping and/or description

2.0.0.0 RANGE

2.1.0.0 Animal management
2.2.0.0 Habitat management
2.2.1.0 By fire
2.2.2.0 By seeding
2.2.2.1 open range
2.2.2.2 clear cuts
2.2.3.0 Weed Control
2.2.4.0 Poisonous spp.
2.2.5.0 Plant physiology

2.3.0.0 Stand modification
2.4.0.0 Tree and grass interaction
2.5.0.0 Fertilizing
2.6.0.0 Inventory

3.0.0.0 WILDLIFE

3.1.0.0 Animal management
3.1.1.0 Census
3.1.2.0 Productivity
3.1.3.0 Foraging habits
3.1.4.0 Biology
3.2.0.0 Habitat management
3.2.1.0 Inventory
3.2.2.0 By fire
3.2.3.0 Other

4.0.0.0 FISHERIES AND HYDROLOGY

4.1.0.0 Fish stocks
4.1.1.0 Inventory
4.1.2.0 Productivity
4.2.0.0 Habitat management
4.2.1.0 Water quality
4.2.2.0 Water yield

5.0.0.0 RECREATIONAL USES OF FOREST LAND

6.0.0.0 REHABILITATION OF DISTURBED LANDS

7.0.0.0 ECONOMIC IMPLICATIONS OF FOREST MANAGEMENT POLICIES

APPENDIX 1 - B.C.F.S. SILVICULTURE BRANCH PROJECTS

Appendix 1A - Seed Orchards
Appendix 1B - Cones and Seeds
Appendix 1C - Nurseries
Appendix 1D - Site Preparation
Appendix 1E - Planting
Appendix 1F - Brushing and Weeding
Appendix 1G - Stand Tending

APPENDIX 2 - LIST OF PARTICIPATING ORGANIZATIONS

IDENTIFICATION CODES FOR TREE SPECIES

western red Cedar	Cw
yellow Cedar	Yc
true Fir	B
Douglas-fir	Fd
Hemlock	H
Larch - western	Lw
Pine - lodgepole	Pl
- Ponderosa - yellow	Py
- white	Pw
Spruce - black	Sb
- Englemann	Se
- Sitka	Ss
- white	Sw
Subalpine fir	B
Poplar - aspen	At
- black, balsam	Ac
Birch	Ep
Alder	Dr
Other	O

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.1.0.0		TREE AND SEED IMPROVEMENT (PC-49)	B.C. & Yukon	Can. Forestry Service PFRC - D.G.W. Edwards	To enhance the quality and quantity of forest tree seed supply
1.1.0.0		a) ROOTED CUTTINGS MATURE TREES (PC-49-013)	B.C. & Yukon	Can. Forestry Service PFRC - H. Brix	As in title
1.1.0.0	H	b) W. HEMLOCK TREE IMPROVEMENT (PC-49-017)	B.C. & Yukon	Can. Forestry Service PFRC - (vacant)	As in title
1.1.0.0		c) OECD SEED CERTIFICATION (PC-49-104)	B.C. & Yukon	Can. Forestry Service PFRC - D. Edwards	As in title
1.1.0.0		d) FORECASTING CONE CROPS (PC-49-224)	B.C. & Yukon	Can. Forestry Service PFRC - S. Els	As in title
1.1.0.0		e) USE EFFICIENCY OF CONIFER SEED LOTS (PC-49-286)	B.C. & Yukon	Can. Forestry Service PFRC - D. Edwards	As in title
1.1.0.0		f) MORPHOLOGICAL CHARACTERISTICS REPRODUCTIVE STRUCTURES (PC-49-305)	B.C. & Yukon	Can. Forestry Service PFRC - S. Els	As in title
1.1.0.0		g) IMPROVED BREEDING METHODS (PC-49-344)	B.C. & Yukon	Can. Forestry Service PFRC - (vacant)	As in title
1.1.0.0	Pw	WESTERN WHITE PINE IMPROVEMENT (PC-44-405)	B.C. & Yukon	Can. Forestry Service PFRC - M. Meagher	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.1.1.0	Fd	PLUS TREE SELECTION AND REGISTRATION OF DOUGLAS-FIR (E.P. 479)	Cowichan Lake	Ministry of Forests Research Branch - J.C. Heaman	To select and register coastal D.-fir strains
1.1.2.0		STUDIES OF VEGETATIVE BUD DEVELOPMENT AND THE TIME OF CONE INITIATION IN NATIVE B.C. CONIFERS	U. Victoria	University of Victoria - J.N. Owens, Biology	To understand cyclic cone production and determine when to try cone induction techniques
1.1.2.0		SEED AND EMBRYO DEVELOPMENT IN NATIVE CONIFERS	U. Victoria	University of Victoria - J.N. Owens, Biology	To describe the reproductive cycle of each spp. so as to understand better the causes of poor seed production
1.1.2.0		THE RELATIONSHIP OF ANATOMICAL AND BIOCHEMICAL CHANGES OCCURRING IN TREES BEING TREATED (ROOT PRUNING, GIBBERELLIN) TO INDUCE CONE PRODUCTION	U. Vic/U. Calgary	University of Victoria/ University of Calgary - J.N. Owens, R.P. Pharis	To compare changes within the tree under natural and cone-inducing conditions and optimal time of treatment
1.1.2.0		CONTAINER SEED ORCHARD RESEARCH (E.P. 865) INCLUDES 12 STUDIES	Victoria, Cowichan	Ministry of Forests Research Branch - S.D. Ross	As in title
1.1.2.0		MINERAL NUTRITION OF SEED ORCHARD TREES (E.P. 918) INCLUDES 3 STUDIES	Victoria	Ministry of Forests Research Branch - R. van den Driessche	As in title
1.1.2.0		SEED ORCHARD CROWN MANAGEMENT (E.P. 944) INCLUDES 4 STUDIES	Lost Lake, Dewdney, South Quinsom Seed Orchards	Ministry of Forests Research Branch - S.D. Ross	As in title
1.1.3.0	Fd, Sw, Pl, Yc	PROPAGATION OF CERTAIN CONIFERS USING TISSUE CULTURING TECHNIQUES	Langley	Clay's Nurseries/ Canadian Forest Products (Sci. Council of B.C.)	To develop operational procedures for tissue culturing of genetically-improved conifers
1.1.3.0	Fd	GRAFTING IN DOUGLAS-FIR (E.P. 648)	Cowichan Lake	Ministry of Forests Research Branch - S.A.I. Karlsson	To test compatibility and subsequent growth and development

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.1.3.0	Ss, Sw	VEGETATIVE REPRODUCTION IN SPRUCE (E.P. 667) INCLUDES 17 STUDIES	Victoria	Ministry of Forests Research Branch - R. van den Driessche	As in title
1.1.3.0	Pl	PROPAGATION AND EVALUATION OF LODGEPOLE PINE BREEDING MATERIAL (E.P. 699)	Victoria	Ministry of Forests Research Branch - C.C. Ying	As in title
1.1.3.0	Yc	YELLOW CEDAR PLANTATION AT COWICHAN LAKE RESEARCH STATION (E.P. 750) INCLUDES 3 STUDIES	Cowichan Lake, Mission, Mt.Elphin. plantations	Ministry of Forests Research Branch - S.A.I. Karlsson	As in title
1.1.3.0	H	IMPROVING CULTURAL TECHNIQUES FOR THE PROPAGATION OF NORTHWEST CONIFERS (E.P. 948)	Victoria	Ministry of Forests Research Branch - A.M. Wood	As in title
1.1.4.0		POLLINATION MECHANISM OF WESTERN HEMLOCK	U. Victoria	University of Victoria - A. Colangeli, J.N. Owens	To describe the pollination mechanism of western hemlock and determine the optimal time of
1.1.4.0		APPLICATION OF LINEAR PROGRAMMING (LP) TO SEED ORCHARD AND NURSERY STOCK PRODUCTION SYSTEMS (E.P. 965)	Cowichan Lake Research Station	Ministry of Forests Research Branch - D. Errico et al.	To identify opportunities for improving efficiency and cost savings in nursery ops. through modelling
1.1.4.0	H	EVALUATION OF ULTRA LOW VOLUME SPRAYS FOR Hw SEED ORCHARD APPLICATION OF $GA_{4/7}$ (242.6)	Vancouver Island	MacMillan Bloedel Ltd. - R.C. Bower	As in title
1.1.4.0	H	COMPARISON OF CONE INDUCTION FACILITIES FOR Hw CONTAINERIZED SEED ORCHARDS (242.5)	Vancouver Island	MacMillan Bloedel Ltd. - R.C. Bower	As in title
1.1.4.0	Yc	CONE INDUCTION TRIALS ON YELLOW CEDAR (242.4)	Vancouver Island	MacMillan Bloedel Ltd. - R.C. Bower	a) To determine the optimal timing and concenetration of GA_3 application to induce cones on Yc
1.1.4.0	Yc	CONE INDUCTION TRIALS ON YELLOW CEDAR (242.4)	Vancouver Island	MacMillan Bloedel Ltd. - R.C. Bower	b) To quantify the longevity of the induction treatments

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1.1.4.0	Yc	CONE INDUCTION TRIALS ON YELLOW CEDAR (242.4)	Vancouver Island	MacMillan Bloedel Ltd. - R.C. Bower	c) To quantify the timing and magnitude of cone abortion in Yc
1.1.4.0	Fd	Df CONE INDUCTION (242.3)	Vancouver Island	MacMillan Bloedel Ltd. - R.C. Bower	To produce Df cones using foliar sprays of $GA_{4/7}$
1.1.4.0	S	CONE CROP PERIODICITY IN SPRUCE (E.P. 618)	Nelson Forest Region	Ministry of Forests Nelson Res. Sec. - C.F. Thompson	As in title
1.1.4.0	H	CONE INITIATION AND SEED DEVELOPMENT IN MOUNTAIN HEMLOCK (E.P. 738)	Victoria	Ministry of Forests Research Branch - J.N. Owens	To determine developmental anatomy of the species
1.1.4.0	Pl	PHOTOPERIOD EXTENSION FOR GROWTH ACCELERATION AND FLOWER PROMOTION IN LODGEPOLE PINE (E.P. 771)	Victoria	Ministry of Forests Research Branch - M. Carlson	As in title
1.1.4.0	Fd	FLOWER STIMULATION IN DOUGLAS-FIR (E.P. 780) INCLUDES 3 STUDIES	Victoria	Ministry of Forests Research Branch - I. Karlsson	As in title
1.1.4.0		ENHANCEMENT OF CONE PRODUCTION IN SEED ORCHARDS (E.P. 799) INCLUDES 3 STUDIES	Victoria	Ministry of Forests Research Branch - J.E. Webber	As in title
1.1.4.0	Fd	SUPPLEMENTAL POLLINATION IN DOUGLAS-FIR SEED ORCHARDS (E.P. 821)		Ministry of Forests Research Branch - J.E. Webber	To determine if seed yield can be enhanced by augmenting pollen supply
1.1.4.0	Pl	SEXUAL REPRODUCTION IN Pinus contorta (E.P. 830)	Victoria	Ministry of Forests Research Branch - J. N. Owens	As in title
1.1.4.0	B	CONE INITIATION AND SEED DEVELOPMENT IN Abies spp. (E.P. 832) INCLUDES 3 STUDIES		Ministry of Forests Research Branch - J.N. Owens	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.1.4.0		ACCELERATED GROWTH OF SEEDLINGS TO INDUCE EARLY AND ABUNDANT CONE PRODUCTION (E.P. 851)	Vernon & Saanich	Ministry of Forests Research Branch - J.E. Webber	As in title
1.1.4.0	Se	CONE INITIATION AND SEXUAL REPRODUCTION OF *Picea engelmannii* (E.P. 900)		Ministry of Forests Research Branch - J.N. Owens	As in title
1.1.4.0	Pl	INVESTIGATION OF SITE EFFECTS ON LODGEPOLE PINE FLOWERING (E.P. 907)	Victoria	Ministry of Forests Research Branch - M. Carlson, J. Webber	Effect of site and stock type on early flowering of lodgepole pine
1.1.4.0		HORMONE TREATMENT METHODS AND REGIMES FOR SEED TREES (E.P. 935)	Victoria	Ministry of Forests Research Branch - S.D. Ross	To develop systems for improved uptake of flower-inducing hormones
1.1.4.0		HORTICULTURE OF CONTAINERIZED SEED ORCHARD TREES (E.P. 961)	Victoria	Ministry of Forests Research Branch - A.M. Eastham	Monitoring plant water status for potted hemlock and spruce
1.1.4.0	Fd	TREE IMPROVEMENT AND MANAGEMENT OF DOUGLAS-FIR SEED ORCHARDS	Vancouver Island	Pacific Forest Products - A.M.K. Fashler	To improve seed orchard management; to produce genetically-improved seed; to test progeny
1.1.4.0	Fd, Pl, Ss, Sw	POLLINATION MECHANISM AND THE OPTIMAL TIME OF POLLINATION FOR MAXIMUM SEED SET IN CONIFERS	U. Victoria	University of Victoria - J.N. Owens, Biology	To increase seed production in seed orchards
1.1.4.0		ULTRA-STRUCTURAL STUDIES OF REPRODUCTIVE DEVELOPMENT IN CONIFERS	U. Victoria	University of Victoria - J.N. Owens	To study the ultra-structure of pollen germination, pollen tube development, fertilization & early embryo develop.
1.1.5.0		QUICK TESTS TO DETERMINE SEED QUALITY (E.P. 838)	Victoria	Ministry of Forests Research Branch - C. Leadem	To evaluate quick alternatives to conventional germination testing
1.1.5.0	B	SEED SIZING AND SORTING (E.P. 843) INCLUDES 2 STUDIES	Victoria	Ministry of Forests Research Branch - C. Leadem	To determine size range and vigour of screened fractions; separation of *Abies amabilis* seed by screen. & aspiration

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1.1.5.0	B	IMPROVING SEED PERFORMANCE (E.P. 848)	Victoria	Ministry of Forests Research Branch - C. Leadem	To improve germination of A. amabilis seed
1.1.5.0		EFFECTS OF CONE STORAGE ON SEED VIABILITY (E.P. 873)	Victoria	Ministry of Forests Research Branch - C. Leadem	To ascertain optimal storage conditions to minimize loss of viability
1.1.5.0		MONITORING CONE AND SEED PERFORMANCE (E.P. 874) INCLUDES 5 STUDIES	Victoria	Ministry of Forests Research Branch - C. Leadem	As in title
1.1.5.0		CONE AND SEED TECHNOLOGY DEVELOPMENT (E.P. 940) INCLUDES 4 STUDIES	Victoria	Ministry of Forests Research Branch - C. Leadem	As in title
1.1.6.0	Fd	PROGENY TEST OF MB Df SEED ORCHARDS (252.6)	Vancouver Island	MacMillan Bloedel Ltd. - R.C. Bower	a) To rogue inferior clones from MB seed orchards and improve their genetic gain potential
1.1.6.0	Fd	PROGENY TEST OF MB Df SEED ORCHARDS (252.6)	Vancouver Island	MacMillan Bloedel Ltd. - R.C. Bower	b) To provide information to improve the adaptability of material coming from MB orchards
1.1.6.0	Fd, Py	FULL-SIB Df TEST (252.5)	Vancouver Island	MacMillan Bloedel Ltd. - R.C. Bower	Measure and test significance of family differences in other traits as they become evident
1.1.6.0	O	WILLOW CLONEBANKS AND PROPAGATION OF WILLOWS (820.1)	Vancouver Island	MacMillan Bloedel Ltd. - R.C. Bower	To preserve phenotypically superior specimens of willow
1.1.6.0	At, Ac	POPLAR CLONEBANKS AND PROPAGATION OF POPLARS (820.2)	Vancouver Island	MacMillan Bloedel Ltd. - R.C. Bower	To preserve phenotypically superior specimens of poplar
1.1.6.0	Fd	OREGON COOPERATIVE PROVENANCE TRIAL (252.2)	Vancouver Island	MacMillan Bloedel Ltd. - R.C. Bower	To study the range wide variation in Df

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1.1.6.0	B	NOBLE FIR PROVENANCE TRIAL (830.2)	Vancouver Island	MacMillan Bloedel Ltd. - R.C. Bower	To test Noble fir as a plantation species
1.1.6.0	B	NOBLE FIR STRATEGY (830.5)	Vancouver Island	MacMillan Bloedel Ltd. - W.J. Beese	To evaluate the potential and extent of areas suitable for introducing Nobel fir on MB tenures
1.1.6.0	H	CONTROL OF WOOD QUALITY IN TREE IMPROVEMENT PROGRAMS	Vancouver	FORINTEK - R.W. Kellogg	To study the relationship of growth rate-specific gravity & juv./mature wood of w. hemlock for progeny tests
1.1.6.0		MEASUREMENT OF WOOD DENSITY BY COMPRESSION OF INCREMENT CORES	Vancouver	FORINTEK - E.A. Hamm	To develop a method of rapidly assess. the wood density of increment cores before & after compression
1.1.6.0	Fd	COASTAL DOUGLAS FIR PROVENANCE STUDY (E.P. 599) INCLUDES 4 STUDIES	Victoria	Ministry of Forests Research Branch - C.C. Ying	As in title
1.1.6.0		TRIAL OF SPECIES AND PROVENANCES (E.P. 611)	Drury Inlet Jennis Bay	Ministry of Forests Research Branch - C.C. Ying	As in title
1.1.6.0	Fd	DOUGLAS-FIR PROVENANCE STUDY IN THE PACIFIC NORTHWEST (F.628)(Sec. 88)	16 sites B.C. to N. California	Ministry of Forests, UBC, CFI, Canfor, M&B & U.S. co-operators	To compare growth performance of a range of provenances (co-ordinator - Oregon State University)
1.1.6.0	Se, Sw	EFFECTS OF ALTITUDINAL AND LATITUDINAL DISPLACEMENTS OF WHITE AND ENGELMANN SPRUCE PROVENANCES (E.P. 646)	Prince George	Ministry of Forests Research Branch - G.K. Kiss	As in title
1.1.6.0	Pl	VARIATION IN LODGEPOLE PINE (E.P. 657) WITH PARTICULAR REFERENCE TO BRITISH COLUMBIA	60 interior sites	Ministry of Forests Research Branch - C.C. Ying	To compare and contrast 153 lodgepole pine provenances on a range of sites
1.1.6.0	Se, Sw	EFFECTS OF ALTITUDINAL AND LATITUDINAL DISPLACEMENT OF WHITE AND ENGELMANN SPRUCE PROVENANCES (E.P. 672)	Prince Rupert plantations	Ministry of Forests Research Branch - G.K. Kiss	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.1.6.0	Fd	DOUGLAS-FIR PROVENANCE PLANTATIONS (E.P. 688)	Prince George Forest Region	Ministry of Forests Research Branch - L. Herring	As in title
1.1.6.0	Ss	GEOGRAPHIC VARIATION IN SITKA SPRUCE (E.P. 702) INCLUDES 5 STUDIES	Q.C.I.'s, North Vancouver Is. & North Coast	Ministry of Forests Research Branch - C.C. Ying	As in title
1.1.6.0	Fd	A PROGENCY TEST OF COASTAL DOUGLAS-FIR USING A FACTORIAL MATING DESIGN WITH FOUR MALE TESTERS (E.P. 707)	Goldstream and Cowichan Lake	Ministry of Forests Research Branch - J.C. Heaman	As in title
1.1.6.0	Cw, H, Pl, Ss	TREE SPECIES TRIAL IN THE KITIMAT VALLEY (E.P. 712)	Kitimat	Ministry of Forests Prince Rupert Res. Sec. - J. Pollack	As in title
1.1.6.0	Ss, H, Cw	TREE SPECIES TRIAL ON THE QUEEN CHARLOTTE ISLANDS (E.P. 814)	Q.C.I., Lyell Island, Sewell Inl.	Ministry of Forests Prince Rupert Res. Sec. /WFP - J. Pollack	To determine the best species or species mix for reforestation and effect of deer browsing
1.1.6.0	S	OPEN-POLLINATED PROGENY TESTING FOR INTERIOR SPRUCE SEED ORCHARD ESTABLISHMENT (E.P. 819)	Victoria	Ministry of Forests Research Branch - G.K. Kiss	As in title
1.1.6.0	B	GRAND FIR PROVENANCE STUDY (E.P. 823)	4 sites Vancouver Region	Ministry of Forests Research Branch - C.C. Ying	Compare and contrast 23 populations
1.1.6.0	B	AMABILIS FIR PROVENANCE STUDY (E.P. 824)	Victoria	Ministry of Forests Research Branch - C.C. Ying	As in title
1.1.6.0	B	NOBLE FIR PROVENANCE STUDY (E.P. 857)	5 sites Vancouver Region	Ministry of Forests Research Branch - C.C. Ying	Compare and contrast 28 provenances
1.1.6.0	Pw	PROGENY TEST OF BLISTER RUST RESISTANT WHITE PINE (259-1)(Sec. 88) (see also 1.4.5.5)	South central Vancouver Island	MacMillan Bloedel - R.C. Bower	Evaluate 'semi-resistant' white pine from the Idaho FI seed orchard for: blister rust resistance, growth

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.1.6.0	Pw	INHERITANCE OF BLISTER RUST RESISTANCE CHARACTERISTICS (259-2) (Sec. 88) (see 1.4.5.5.)	South central Vancouver Island	MacMillan Bloedel - R.C. Bower	Determine if the rust canker inactivation is permanent as suggested by Hungerford
1.1.6.0	B	NOBLE FIR EXOTIC - PROVENANCE TRIAL (831-2) (Sec. 88)	South central and southeast Vancouver Island	MacMillan Bloedel - R.C. Bower	To assess survival and early growth of noble fir and comparison of several noble fir provenances
1.1.6.0	Ss	SITKA SPRUCE PROVENANCE STUDY	TFL24, Moresby	Western Forest Products - J. Barker	To determine the most desirable provenance
1.1.6.0	Fd	GENETIC VARIATION OF A SELECTED DOUGLAS-FIR POPULATION	UBC	UBC - Forestry - O. Szikiai	To correlate seed characteristics with seedling growth
1.1.6.0	Fd	COMPARATIVE KARYOTYPE ANALYSIS OF Pseudotsuga genus	UBC	UBC - Forestry - O. Szikiai	To compare karyotypes of 7 species of Pseudotsuga
1.1.6.0	Cw	STUDY OF VARIATION OF WESTERN RED CEDAR	UBC	UBC - Forestry - O. Szikiai	Study of intra- and inter-population variations of Thuja plicata
1.1.6.0	B	PATTERNS OF VARIATION IN PACIFIC SILVER FIR	UBC	UBC - Forestry - O. Szikiai	As in title
1.1.6.0	Pl	A COMPARISON OF BUD, SHOOT AND CAMBIAL GROWTH IN PROVENANCES OF LODGEPOLE PINE FROM B.C.	U. Victoria	University of Victoria - C.O. O'Reilly J.N. Owens	To compare the annual growth cycle rate of growth and development and reproductive phenology
1.1.7.0	Fd	VERIFICATION OF CLONAL IDENTIFICATION AND POLLEN CONTAMINATION IN A Df SEED ORCHARD (243.1)	Vancouver Island	MacMillan Bloedel Ltd. - R.C. Bower	As in title
1.1.7.2		STORAGE CONDITIONS AND VAIABILITY TESTING FOR CONIFEROUS POLLEN (E.P. 773) INCLUDES 3 STUDIES	Victoria	Ministry of Forests Research Branch - J.E. Webber	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.1.8.0	Fd	INBREEDING & STERILITY STUDIES WITH DOUGLAS-FIR (E.P. 474)	Cowichan Lake	Ministry of Forests Research Branch - F.C.H. Yeh	As in title
1.1.8.0	Fd	RACIAL CROSSES WITH DOUGLAS-FIR (E.P. 513)	Victoria	Ministry of Forests Research Branch - J.C. Heaman	As in title
1.1.8.0	Sl	GENETIC IMPROVEMENT OF INTERIOR SPRUCES IN B.C. (E.P. 670)	Victoria	Ministry of Forests Research Branch - G.K. Kiss	As in title
1.1.8.0	S	SPRUCE PICETA (E.P. 705)	Chilliwack & Red Rock	Ministry of Forests Research Branch - G.K. Kiss	As in title
1.1.8.0	Fd	BREEDING PROGRAM OF COASTAL DOUGLAS-FIR FIR (E.P. 708)	?	Ministry of Forests Research Branch - J.C. Heaman	To make crosses between selected parents and to register progeny
1.1.8.0	Fd	INTERIOR DOUGLAS-FIR BREEDING ARBORETUM (E.P. 710)	Interior	Ministry of Forests Research Branch - B. Jaquish	As in title
1.1.8.0	Lw	WESTERN LARCH BREEDING ARBORETUM (E.P. 711)	Interior	Ministry of Forests Research Branch - B. Jaquish	As in title
1.1.8.0		CORRELATIONS BETWEEN QUANTITATIVE AND QUALITATIVE ATTRIBUTES (E.P. 776)		Ministry of Forests Research Branch - F.C.H. Yeh	Not specified
1.1.8.0	Pl	GENETIC IMPROVEMENT OF LODGEPOLE PINE (E.P. 770)	Smithers/Houston, P.G., E. Kootenay, Okanagan	Ministry of Forests Research Branch - M. Carlson	Establishment of breeding orchards
1.1.8.0		EXPERIMENTAL POPULATION GENETICS IN CONIFERS (ELECTROPHORESIS) (E.P. 778)	Victoria	Ministry of Forests Research Branch - F.C.H. Yeh	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.1.8.0	B	AMABILIS FIR ARBORETUM (AMABILIS FIR GRAFTED ON UNDERSTOCK OF FOUR DIFFERENT SPECIES) (E.P. 815)	Cowichan Lake	Ministry of Forests Research Branch - I.C. Karlsson	As in title
1.1.8.0	B	Abies amabilis x A. grandis HYBRIDIZATION (241.1)	South central Vancouver Island	MacMillan Bloedel - R.C. Bower	Determine how readily grand fir and amabilis fir hybridize under seed orchard conditions
1.2.0.0		QUALITY CONTROL IN THE PRODUCTION OF NURSERY PLANTING STOCK (E.P. 928)	Victoria	Ministry of Forests Research Branch - A.N. Burdett	As in title
1.2.0.0		NURSERIES - 23 trials by Silviculture Branch, B.C.F.S. - See Appendix Ic		Ministry of Forests Silviculture Branch	
1.2.2.0		COPPER CONTAINER TRIAL (Sec. 88; KV 99009)	TFL 20	Ministry of Forests Vancouver Region & MacMillan Bloedel	As in title
1.2.2.0	Fd, Hw, Cw	COPPER CONTAINER TRIAL (312-8) (Sec. 88 JV99018)	Vancouver Island	MacMillan Bloedel/Min. of Forests/CFS-PFRC Dunsworth,Burdett,Arnott	Field test chemically boxpruned container stock type relative to conventional container & bareroot stocks
1.2.2.0		DEVELOPMENT OF NEW SYSTEMS OF GROWING TREE SEEDLINGS	Maple Ridge	Pelton Reforestation	To develop more productive ways of raising new trees
1.2.2.0		SANITATION IN CONTAINER NURSERIES	Victoria	Ministry of Forests Silviculture Branch - (Mathews)	To develop controls for mosses, algae & liverworts in nursery containers
1.2.2.0		PLUG FIRMING TRIAL (RNX 7954)	Victoria	Ministry of Forests Silviculture Branch - (Matthews)	Test of ability of Algenal and Tenogel to improve plug cohesiveness
1.2.2.0	Pl	LODGEPOLE PINE ROOT FORM TRIAL (RNX 7901)	Quesnel	Ministry of Forests Silviculture Branch	To monitor root responsec to several types of Pl stock

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.2.2.0		STYROBLOCK HIGH DENSITY ASSESSMENT (RNX 7961)		Ministry of Forests Silviculture Branch	To compare and contrast two densities of styroblock
1.2.3.0	Sw	REQUIREMENTS OF CONIFER SEEDLINGS FOR MINERAL NUTRIENTS (E.P. 640) INCLUDES 9 STUDIES	Surrey Nursery	Ministry of Forests Research Branch - R. van den Driessche	As in title
1.2.3.0	Fd	NURSERY EXPERIMENTS WITH MINERAL NUTRIENTS (E.P. 753) INCLUDES 9 STUDIES	Campbell River	Ministry of Forests Research Branch - R. van den Driessche	As in title
1.2.3.0		PRODUCTION OF NURSERY STOCK IN COMPOSTED SEWAGE SLUDGE (E.P. 877)	Victoria	Ministry of Forests Research Branch - D. Simpson	To test sewage sludge/hog fuel compost as a growing medium
1.2.3.0	Fd, Pl	IRON AMENDMENT TRIALS (RNX 7953,7956,7957,7959)	Koksilla, Green Timbers, Marguerite	Ministry of Forests Silviculture Branch - (Matthews)	To improve Fe metabolism
1.2.3.0		LOW PHOSPHOROUS SOLUBLE FERTILIZER (RNX 7955)	Koksilah	Ministry of Forests Silviculture Branch - (Matthews)	As in title
1.2.3.0		ESMIGRAN TRIAL (RNX 7958 and 7960)	Marguerite, Green Timbers	Ministry of Forests Silviculture Branch - (Matthews)	Test a new trace element source
1.2.3.0		SOIL MIX DENSITY TEST (RNX 7963)	Koksilah Nursery	Ministry of Forests Silviculture Branch	Compare seedling growth at a range of soil compaction and density
1.2.3.0		GRACE SOIL MIX TEST (RNX 7966)	Victoria	Ministry of Forests Silviculture Branch - (Matthews)	Compare a commercial soil mix with nursery standard mix
1.2.3.0		GYPSUM TRIAL (RNX 7970)	Victoria	Ministry of Forests Silviculture Branch - (Matthews)	Substitution of gypsum for dolomitic lime

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.2.3.0		MODIFIED SOLUBLE FERTILIZER SCHEDULE (RNX 7971)	Surrey Nursery	Ministry of Forests Silviculture Branch - (Matthews)	Compare standard regimes to those of Georgia Pacific Nursery
1.2.3.0		HYDROGEL TRIAL - MARGUERITE (RNX 7972)	Marguerite	Ministry of Forests Silviculture Branch - (Matthews)	Tests of efficacy of Hydrogel
1.2.3.0		pH AND SALINITY OF OSMOCOTE SOIL (RNX 7973)	Victoria	Ministry of Forests Silviculture Branch - (Matthews)	Test of Osmocote for its effects on shifts in pH and salinity with fertilizing
1.2.3.0	Fd	OSMOCOTE SALINITY - INTERIOR DOUGLAS-FIR (RNX 7975)	Victoria	Ministry of Forests Silviculture Branch - (Matthews)	Tests of Osmocote & phosphate interaction
1.2.3.0		BLACK DIAMOND PEAT (RNX 7976)	Victoria	Ministry of Forests Silviculture Branch - (Matthews)	Tests of Black Diamond peat as an additive to nursery
1.2.3.0		TO DEVELOP TECHNIQUES AND EQUIPMENT FOR COMMERCIALLY GROWING FOREST SEEDLINGS IN WASHED SAND, SOIL BLOCKS AND NUTRIENT FILM	Maple Ridge	Pelton Reforestation	To encourage experiments using small fabricated soil plugs that contain tree seedlings
1.2.4.0	Fd, Sw	NURSERY SEEDBED DENSITY AND SEEDLING SPACING (E.P. 786) INCLUDES 9 STUDIES	Victoria	Ministry of Forests Research Branch - R. van den Driessche	As in title
1.2.4.0	Fd, Py Sl	NURSERY CULTURE TREATMENTS FOR ENHANCED STOCK QUALITY AT INTERIOR NURSERIES (E.P. 836) INCLUDES 8 STUDIES	Red Rock, Skimikin	Ministry of Forests Research Branch - D.G. Simpson	As in title
1.2.4.0	Sw, Fd, Lw	NEW METHODS FOR THE PRODUCTION OF FOREST PLANTING STOCK (E.P. 858) INCLUDES 6 STUDIES	Nelson Region, McBride	Ministry of Forests Research Branch - A.N. Burdett	As in title
1.2.4.0	Fd, Sw, Pl, Ss	CONDITIONING/FERTILIZER TRIALS IN 2+0 NURSERY STOCK (E.P. 866) INCLUDES 9 STUDIES	Skimikin, Red Rock, Surrey, Campbell River	Ministry of Forests Research Branch - D.G. Simpson	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.2.4.0	Fd	DOUGLAS-FIR ROOTING TRIAL (RNX 7952)	Victoria	Ministry of Forests Silviculture Branch - (Matthews)	As in title
1.2.4.1		DORMANCY AND FROST HARDINESS (E.P. 652)	Victoria	Ministry of Forests Research Branch - R. van den Driessche	As in title
1.2.4.2		THE EFFECT OF SOAKING SEEDS ON GERMINATION OF SOME MAJOR B.C. FOREST TREES (E.P. 835) INCLUDES 2 STUDIES	Victoria	Ministry of Forests Research Branch - C. Leadem	As in title
1.2.4.2	Fd, Pl, Sw, Cw, Yc	PELLETING TREE SEED TO IMPROVE SOWING PRECISION AND EFFICIENCY (E.P. 909) INCLUDES 6 STUDIES	Koksilah Nursery	Ministry of Forests Research Branch - C. Leadem	As in title
1.2.4.2		GROWTH AND GERMINATION EFFECT OF SEED COLLECTING METHOD (RNX 7964)	Koksilah Nursery	Ministry of Forests Silviculture Branch	Compares seed from squirrel caches with standard collections regarding germination and growth
1.2.4.3	Fd	NURSERY EXPERIMENTS WITH MINERAL NUTRIENTS (E.P. 753)	Green Timbers	Ministry of Forests Research Branch - R. van den Driessche	Measure effect of N & K fertilizers on stock quality & the effect of season of fert. applic. on stock qual
1.2.4.3		DEVELOPMENT OF AN INSTRUMENT TO MEASURE RATES OF WATER LOSS BY SEEDLINGS	Vancouver	UBC - Soil Science - T.A. Black (Sci. Council of B.C.)	To develop a sensor and microprocessor for rapid detection of moisture stress in tree seedlings
1.2.4.3	H	INDUCTION OF DORMANCY AND FROST HARDINESS IN WESTERN HEMLOCK PLANTING STOCK (E.P. 764) INCLUDES 4 STUDIES	Victoria	Ministry of Forests Research Branch - W.D. Binder	To test conditioning of Hemlock for fall planting
1.2.4.3	Pl	CHEMICAL CONTROL OF ROOT MORPHOGENESIS IN CONTAINER SEEDLINGS (E.P. 791) INCLUDES 7 STUDIES	Victoria	Ministry of Forests Research Branch - A.N. Burdett	As in title
1.2.4.3	Sw	ROOT DEVELOPMENT IN WHITE SPRUCE	U. Victoria	University of Victoria - A.M. Johnson-Flanagan J.N. Owens (NSERC)	To study the growth cycle of seedling roots, the development and physiology of root tips

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.2.4.3	H	NEEDLE CAST FOLLOWING GREENHOUSE GROWING OF WESTERN HEMLOCK (E.P. 958)	Victoria	Ministry of Forests Research Branch - W.D. Binder	Influence of late season nursery shade maangement on reducing needle cast of western hemlock
1.2.4.3	Fd	BUD AND ROOT DEVELOPMENT OF COASTAL AND INTERIOR DOUGLAS-FIR SEEDLINGS DURING THE ANNUAL GROWTH CYCLE	U. Victoria	University of Victoria - P. Fielder J.N. Owens	Special emphasis will be given to the dormancy induction and dormant stages
1.2.4.3		HARROP NURSERY TEST (RNX 7962) (N.B. operational rather than research)	Harrop Nursery	Ministry of Forests Silviculture Branch	Comparison of production methods
1.2.4.3	Cw	FROST HARDINESS ASSESSMENT OF WESTERN RED CEDAR (RNX 7980)	Koksilah Nursery	Ministry of Forests Silviculture Branch	Assess W.R. Cedar seedling's tolerance of sub-zero temperatures
1.2.5.0	Fd	ROOT DEVELOPMENT AFTER PLANTING (E.P. 779)	Cowichan Lake	Ministry of Forests Research Branch - I. Karlsson	Difference in root development between rooted cuttings & seedlings in D.-fir
1.2.6.0	Fd	THE EFFECTS OF UNDERCUTTING AND WRENCHING IN THE NURSERY ON SEEDLING QUALITY (E.P. 846)	Victoria	Ministry of Forests Research Branch - R. van den Driessche	Effects of wrenching time and lifting data on survival and growth of 2+0 Douglas-fir after planting
1.2.7.0		TESTING SELECTIVE HERBICIDES FOR BARE ROOT AND CONTAINER NURSERIES (E.P. 693) INCLUDES 6 STUDIES	Surrey, Koksilah & Red Rock Nurseries	Ministry of Forests Research Branch - R. van den Driessche	as in title: oxadiazon, bifenox, prometryne, diphenamid
1.2.8.0		COLD STORAGE PHYSIOLOGY OF CONIFER SEEDLINGS (E.P. 737)	Victoria	Ministry of Forests Research Branch - W.D. Binder	As in title
1.2.8.0		STOCK QUALITY AND THE EFFECTS OF HANDLING (312.12)	Vancouver Island	MacMillan Bloedel Ltd. - B.G. Dunsworth	To determine the magnitude & nature of reductions in stock quality which develop- nursery ship. to planting
1.2.8.0		STOCK TYPE HANDLING SURVEY (312.13)	Vancouver Island	MacMillan Bloedel Ltd. - B.G. Dunsworth	To determine the effectiveness of MB stock handling guidelines

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.2.8.0		PT. McNEILL STOCK STORAGE OP. TRIAL (315.8)	Vancouver Island	MacMillan Bloedel Ltd. - B.G. Dunsworth	To develop and document, on an operational basis, MB experience basis, with various stock types and species
1.2.8.0		COWICHAN STOCK STORAGE OP. TRIAL (315.7)	Vancouver Island	MacMillan Bloedel Ltd. - B.G. Dunsworth	To develop and document, on an operational basis, MB experience basis, with various stock types and species
1.2.8.0		ROOT DIPPING AND FOLIAGE TREATMENTS TO IMPROVE SEEDLING SURVIVAL AND GROWTH (E.P. 827) INCLUDES 5 STUDIES	Victoria	Ministry of Forests Research Branch - D.G. Simpson	As in title
1.2.8.0	Se, Sw	SEEDLING QUALITY RESEARCH (E.P. 869) INCLUDES 10 STUDIES	Nurseries	Ministry of Forests Research Branch - D.G. Simpson	As is title
1.2.8.0		MITOTIC INDEX AS AN INDICATOR OF DORMANCY, LIFTING AND FROST HARDINESS STATUS OF CONIFERS (E.P. 960)	Victoria	Ministry of Forests Research Branch - W.D. Binder	As in title
1.2.8.0		SPENCER LEMAIRE HANDLING TRIAL (RNX 7951)	Vancouver Region	Ministry of Forests Silviculture Branch	As in title
1.2.8.0	Sw	OVERWINTERING OF INTERIOR SPRUCE (RNX 7979)	Koksilah Nursery	Ministry of Forests Silviculture Branch	Compare open and covered overwinter storage
1.3.0.0		ASSESSMENT OF RE-ESTABLISHMENT TECHNIQUES FOR HIGH-SITE CUT-OVER LANDS (Sec. 88; KV 99023)	TFL 25	Ministry of Forests Vancouver Region & Western Forest Products	As in title
1.3.0.0		REGENERATION AND SILVICULTURAL SYSTEMS (PC-48)	B.C. & Yukon	Can. Forestry Service PFRC - J.T. Arnott	To develop, test and demonstrate new and improved reforestation and stand establishment
1.3.0.0		a) ROOT, STEM AND CROWN DEVELOPMENT AND THEIR RELATIONSHIPS (PC-48-016)	B.C. & Yukon	Can. Forestry Service PFRC - S. Els	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.3.0.0		b) LEVELS OF GROWING STOCK (PC-48-080)	B.C. & Yukon	Can. Forestry Service PFRC - J. Arnott	As in title
1.3.0.0		c) FIELD PERFORMANCE CONTAINER SEEDLINGS, COASTAL (PC-48-086)	B.C. & Yukon	Can. Forestry Service PFRC - J. Arnott	As in title
1.3.0.0		d) FIELD PERFORMANCE CONTAINER SEEDLINGS, INTERIOR (PC-48-087)	B.C. & Yukon	Can. Forestry Service PFRC - A. Gardner	As in title
1.3.0.0		e) PRODUCTION-TRANSPORT CONTAINER SEEDLINGS (PC-48-089)	B.C. & Yukon	Can. Forestry Service PFRC - J. Arnott	As in title
1.3.0.0		f) ECOLOGY OF SITE PREPARATION ALTERNATIVES (PC-48-111)	B.C. & Yukon	Can. Forestry Service PFRC - R. McMinn	As in title
1.3.0.0		g) MICROBIAL INOCULATION CONTAINER SEEDLINGS (PC-48-205)	B.C. & Yukon	Can. Forestry Service PFRC - J. Dennis	As in title
1.3.0.0		h) ARTIFICIAL REGEN HIGH ELEVATION SPECIES (PC-48-257)	B.C. & Yukon	Can. Forestry Service PFRC - J. Arnott	As in title
1.3.0.0		i) RECLAMATION OF NON-PRODUCTIVE FOREST LAND (PC-48-338X)	B.C. & Yukon	Can. Forestry Service PFRC - J. Arnott	As in title
1.3.0.0		j) PLANTING STOCK SELECTION (PC-48-357)	B.C. & Yukon	Can. Forestry Service PFRC - R. McMinn	As in title
1.3.0.0		k) PHYSIOLOGICAL ASPECTS OF VEGETATION (PC-48-410)	B.C. & Yukon	Can. Forestry Service PFRC - D. Macey	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.3.0.0		l) COMPARISON OF INVERTED MOUNDING (PC-48-412)	B.C. & Yukon	Can. Forestry Service PFRC - R. McMinn	As in title
1.3.0.0		m) MODERATE DROUGHT AND NUTRIENT STRESS ON BUD FORMATION (PC-48-413)	B.C. & Yukon	Can. Forestry Service PFRC - D. Macey	As in title
1.3.0.0		n) FIELD PERFORMANCE NEW STOCK TYPES (PC-48-427)	B.C. & Yukon	Can. Forestry Service PFRC - J. Arnott	As in title
1.3.0.0	Fd	DEVELOPMENT OF SILVICULTURAL PRESCRIPTIONS FOR DRYBELT DOUGLAS-FIR SITES IN THE CARIBOO FOREST REGION (E.P. 841) INCLUDES 4 STUDIES	Cariboo	Ministry of Forests Research Branch - A. Vyse	As in title (see also 1.4.0.0)
1.3.0.0		PLANTING - Silviculture Br. B.C.F.S. Planting - 34 - Appendix IE; Site Preparation - 8 - Appendix ID		Ministry of Forests Silviculture Branch	
1.3.1.0	Sw	PLANTING STOCK AND SITE PREPARATION TREATMENTS IN THE PEACE RIVER BOREAL FOREST	Dawson Creek	Ministry of Forests Pr. George Res. Sec. - L. Herring	To evaluate the response of several stock types to various site preparation regimes
1.3.1.0	Sw	EFFECTS OF BURNING AND MECHANICAL SITE PREPARATION ON NUTRITION OF PLANTED WHITE SPRUCE (see also 1.4.8.0)	Central Interior B.C.	UBC - Soil Science/For. - T.M. Ballard	As in title
1.3.1.0	Se, Sw	THE EFFECTS OF A CAZE & HEPPNER PLOW SITE PREPARATION TREATMENT ON THE SURVIVAL AND GROWTH OF INTERIOR SPRUCE (780-13-6-16)	Horsefly, TSHL A01964	Weldwood of Canada Merrill & Wagner Ops - V. Grainger	To compare the effects of plowing on the growth of bareroot and of plug spruce seedlings
1.3.1.1	Sw	THE BIOLOGICAL EFFECTIVENESS OF SITE PREPARATION TECHNIQUES IN THE BOWRON RIVER VALLEY (E.P. 972) 3 STUDIES	Prince George, Bowron Valley	Ministry of Forests Pr. George Res. Sec. - L. Herring, D. Draper	As in title
1.3.1.1	Pl, Sw	BIOLOGICAL EFFECTIVENESS OF EQUIPMENT TESTED IN SILVICULTURAL MECHANICAL SITE PREPARATION TRIALS (E.P. 741)	Central Interior	Ministry of Forests/ P.G. Res. Sec/CFS-PFRC - McMinn, Herring	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.3.1.1		EQUIPMENT DEVELOPMENT AND PRODUCTS TESTING (V-BLADE, SPOT SCARIFIER)	Interior	Ministry of Forests Engineering Branch - S.F. Lam	To prepare sites for planting
1.3.1.1		MECHANIZATION OF SILVICULTURE: SCARIFICATION	Vancouver	FERIC - I.B. Hedin	To determine if machines and methods currently in use are meeting the needs of the industry
1.3.1.1	Pl, Sw	EVALUATION OF TREATMENTS IN THE DRAG SCARIFICATION PRINCE GEORGE FOREST REGION (E.P. 800)	Sutherland Forest/Vanderhoof	Ministry of Forests Pr. George Res. Sec. - L. Herring	To test a range of mechanical site treatments on planting success and on natural ingress
1.3.1.2		EFFECTS OF PRESCRIBED FIRE ON NUTRITIONAL STATUS OF JUVENILE COASTAL PLANTATIONS	Vancouver Forest Region	UBC - Soil Science - T. M. Ballard	As in title
1.3.1.2		MYCORRHIZA-FORMING ABILITY OF POST-FIRE DISCOMYCETES IN BROADCAST BURNED CLEARCUTS	U. Victoria	University of Victoria - J.W. Paden, K. Egger Biology	To determine if post-fire discomycetse are mycorrhizal symbionts in burned clearcuts using lab & field studies
1.3.1.2	Sw	THE BIOLOGICAL EFFECTIVENESS OF PRESCRIBED FIRE	Prince George, Bowron Valley	Ministry of Forests Pr. George Res. Sec. - D. Draper, L. Herring	a) To compare the effects of planting freshly lifted white spruce immed. following a fall prescribed fire
1.3.1.2	Sw	THE BIOLOGICAL EFFECTIVENESS OF PRESCRIBED FIRE	Prince George, Bowron Valley	Ministry of Forests Pr. George Res. Sec. - D. Draper, L. Herring	b) and planting during the following spring using winter stored and freshly lifted stock
1.3.1.2	Sl	IMPACT OF SLASHBURNING ON ECOSYSTEM NUTRIENT STATUS AND ON INITIAL GROWTH OF INTERIOR SPRUCE	Smithers	UBC - Forestry - M.C. Feller	As in title
1.3.1.2	Fd	GROWTH AND NUTRITION OF PLANTED Df IN RELATION TO SLASHBURN CONDITIONS (120.2.2)	Vancouver Island	MacMillan Bloedel Ltd. - W. J. Beese	a) To monitor height growth and foliar nutrient status of planted Df seedlings
1.3.1.2	Fd	GROWTH AND NUTRITION OF PLANTED Df IN RELATION TO SLASHBURN CONDITIONS (120.2.2)	Vancouver Island	MacMillan Bloedel Ltd. - W. J. Beese	b) To relate these to slashburning treatments applied under different conditions

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.3.1.2		PRESCRIBED FIRE ECOLOGY STUDIES IN THE PRINCE RUPERT FOREST REGION (E.P. 953)	Prince Rupert Region	Ministry of Forests Research Branch - Trowbridge,Pojar,Macadam	As in title
1.3.1.2	Fd	IMPACT OF PRESCRIBED BURNING ON FOREST PRODUCTIVITY (see also 1.4.5.3) (Sec. 88)	Coastal B.C.	MacMillan Bloedel - T.P. Rollerson	Assess the effects of burning on a) site productivity; b) growth of Douglas-fir; c) competing vegetation
1.3.1.2		LOSSES OF NUTRIENTS TO THE ATMOSPHERE DURING SLASH BURNS	Vancouver	UBC - Forestry - M.C. Feller	To relate slash & slash fire characteristics to nutrient losses into the atmosphere during slash burns
1.3.1.3	Sw	THE BIOLOGICAL EFFECTIVENESS OF MOUNDING AND HERBICIDE TREATMENTS	Prince George, Bowron Valley	Ministry of Forests Pr. George Res. Sec. - L. Herring, D. Draper	As in title
1.3.2.1	Pl	IDENTIFICATION OF FACTORS INFLUENCING THE NATURAL REGENERATION OF LODGEPOLE PINE (E.P. 804)	Burns Lake Bulkley River	Ministry of Forests Prince Rupert Res. Sec. - J. Pollack	Relate cone habit, seed supply, logging method and post logging treatment to regeneration performance
1.3.3.0		REGENERATION FAILURE ON SOUTH-FACING SLOPES (Sec. 88; KV 99014)	TFL 39	Ministry of Forests Vancouver Region & MacMillan Bloedel	As in title
1.3.3.0		ESTABLISHMENT REGIMES ON HIGH SITE, BRUSH SUSCEPTIBLE SITES (Sec. 88; KV 99001)	TFL 6	Ministry of Forests Vancouver Region & Western Forest Products	As in title
1.3.3.0	Fd	Df/SALAL PLANTATION ESTABLISHMENT TRIAL (314.1)	Vancouver Island	MacMillan Bloedel Ltd. - B.G. Dunsworth	a) To det. the most effective means of achieving reforestation objectives in the CDFbl and CwHa2 biogeo. zones
1.3.3.0	Fd	Df/SALAL PLANTATION ESTABLISHMENT TRIAL (314.1)	Vancouver Island	MacMillan Bloedel Ltd. - B.G. Dunsworth	b) To develop plantation establishment guidelines for these ecological units
1.3.3.0	Ss	ESPACEMENT TRIAL OF SITKA SPRUCE (E.P. 570)	Terrace	Ministry of Forests Prince Rupert Res Sec. - J. Pollack	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.3.3.0		DEVELOPMENT OF REFORESTATION METHODS FOR AVALANCHE CONTROL (E.P. 781)	Stagleap Provincial Park	Ministry of Forests Nelson Res. Sec. - C.F. Thompson	As in title
1.3.3.0	Sw	PLANTING SITE AND STOCK TREATMENTS FOR BRUSHFIELD CONVERSION (E.P. 933)	Prince George Walker-Goodson Ck.	Ministry of Forests Pr. George Res. Sec. - L. Herring	To test stock type, chemical site preparation and fertilization
1.3.3.0	Fd	ANIMAL DAMAGE (2-017)	East Thurlow Island	Crown Forest Industries - F.T. Leslie	To determine the effect of animal damage and to test various protection systems
1.3.3.0		REGENERATION FAILURE ON SOUTH-FACING ASPECTS (316-1) (Sec. 88)	TFL 39	MacMillan Bloedel - B.G. Dunsworth	To determine which treatments are most likely to ensure planting success, in a variety of conditions
1.3.3.0	Cw, H, B	ESTABLISHMENT TRIAL (25-002) (Sec. 88 - HV 99019)	Port McNeill TFL 25	Western Forest Products - J. Barker	To test, in combination, three tree species plus cultivation weed control and burning
1.3.3.0		ASSESSMENT OF RE-ESTABLISHMENT TECHNIQUES FOR HIGH SITE CUTOVER LANDS (25.001) (Sec. 88 HV 99020)	Jordon River TFL 25	Western Forest Products	To test, in combination, stock type, fertilizer weed control and browse repellent
1.3.3.0		BIODEGRADABLE SEEDLING CONTAINER	Vancouver	UBC - Forestry - J. Walters	To develop a seedling container, rigid in nursery use but which breaks down rapidly after planting
1.3.3.1	Fd	DOUGLAS-FIR FALL PLANTING OPERATIONAL TRIAL (315-4) (Sec. 88)	Vancouver Island	MacMillan Bloedel - B.G. Dunsworth	As in title
1.3.3.1	B	PACIFIC SILVER FIR PLUG AND TRANSPLANT OPERATIONAL TRIAL (315-5) (Sec. 88)	Labour Day Lake	MacMillan Bloedel - B.G. Dunsworth	As in title
1.3.3.1	Se	ENGELMANN SPRUCE PLUG OPERATIONAL TRIAL (315-6) (Sec. 88)	Labour Day Lake	MacMillan Bloedel - B.G. Dunsworth	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.3.3.2		THE DESIGN AND DEVELOPMENT OF AN AUTOMATIC TREE-PLANTING SYSTEM TO OPERATIONAL STANDARDS	UBC	UBC - Forestry - J. Walters	As in title
1.3.3.3	Py	EFFECTS OF INITIAL SPACING ON THE GROWTH AND DEVELOPMENT OF PONDEROSA PINE (E.P. 607)	Nelson & Kamloops Regions	Ministry of Forests Kamloops & Nelson R.S. - C. Thompson	As in title
1.3.3.3	Cw, B, Fd	SPACING TRIALS OF PURE AND MIXED STANDS (E.P. 429)	Chilliwack Campbell River	Ministry of Forests Research Branch - S. Omule	To compare the survival, growth and yield of pure and mixed test plantations
1.3.3.3	Sw	WHITE SPRUCE ESPACEMENT TRIAL (E.P. 549)	Anzac and Buckhorn Lake	Ministry of Forests Pr. George Res. Sec. - L. Herring	As in title
1.3.3.3		TREE SPECIES AND ESPACEMENT TRIAL (E.P. 571)	West Coast Vancouver Island	Ministry of Forests Research Branch - S.A.Y. Omule	As in title
1.3.3.3		TRIAL OF TREE SPECIES AND ESPACEMENT IN THE SUB BOREAL SPRUCE BIOGEOCLIMATIC ZONE (E.P. 660)		Ministry of Forests Pr. George Res. Sec - L. Herring	As in title
1.3.3.4	Pl, Sw, Fd	PHYSIOLOGICAL ASPECTS OF NURSERY PRODUCTION AND FIELD ESTABLISHMENT OF LODGEPOLE PINE, WHITE SPRUCE AND INTERIOR DOUGLAS-FIR (E.P. 746)	Interior	Ministry of Forests Research Branch - A.N. Burdett	As in title
1.3.3.4		GROWTH AND NUTRITION OF PLANTED Df IN RELATION TO SLASHBURN CONDITIONS (120.2.2)	Vancouver Island	MacMillan Bloedel Ltd. - W. J. Beese	a) To monitor height growth and foliar nutrient status of planted Df seedlings
1.3.3.4		GROWTH AND NUTRITION OF PLANTED Df IN RELATION TO SLASHBURN CONDITIONS (120.2.2)	Vancouver Island	MacMillan Bloedel Ltd. - W. J. Beese	b) To relate these to slashburning treatments applied under different conditions

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.3.3.4	Fd , H, B	SPRING ROOT PHENOLOGY (315.3)	Vancouver Island	MacMillan Bloedel Ltd. - B.G. Dunsworth	To confirm the applicability of mitotic indexing of root systems on Fd, Hw, and B
1.3.3.4	Sl	EARLY GROWTH AND SURVIVAL STUDIES OF INTERIOR SPRUCE (E.P. 859) INCLUDES 9 STUDIES		Ministry of Forests Research Branch -A. Vyse R. van den Driessche	As in title
1.3.3.4	Pl, Se, Sw	ECOPHYSIOLOGICAL STUDIES OF REGENERATION PROBLEMS IN THE INTERIOR OF B.C. (E.P. 893)	Willow Forest (PG) Riske Creek (Carib) Spanish Lake "	Ministry of Forests/UBC Research Branch	To describe the physiology of regeneration failure and plant growth "strategy"
1.3.3.4	Fd, H	FALL ROOT PHENOLOGY -(DOUGLAS-FIR AND WESTERN HEMLOCK) (315-1)	East Vancouver Island	MacMillan Bloedel - B.G. Dunsworth	To quantify fall root activity and correlate with soil moiture & temp. and det. optimal time for fall plant.
1.3.3.4	B, Fd, H	REGENERATION FAILURE ON SOUTH-FACING ASPECTS (316-1) (see also 1.3.3.0)	East Vancouver Island	MacMillan Bloedel - B.G. Dunsworth	To compare seasonal envir. parameters of habitat types with potentials for reforestation
1.3.3.4	Cw	CONTAINER TRIALS ON THREE WESTERN RED CEDAR STOCK TYPES (312-4)	West, Central & North Vancouver Island	MacMillan Bloedel - B.G. Dunsworth	Compare the growth, survival, root development & provenance influence under field conditions
1.3.3.5	Se	ENGLEMANN SPRUCE PLUG OPERATIONAL TRIAL (Sec. 88; KV 99013)	TFL 20	Ministry of Forests Vancouver Region & MacMillan Bloedel	As in title
1.3.3.5		EXPERIMENTAL INTER-PLANTING TRIALS (Sec. 88; KV 99017)	TFL 21	Ministry of Forests Vancouver Region & MacMillan Bloedel	As in title
1.3.3.5		CONTAINER PLANTING TRIAL (Sec. 88; KV 99008)	TFL 20	Ministry of Forests Vancouver Region & MacMillan Bloedel	As in title
1.3.3.5	Fd	DOUGLAS-FIR FALL PLANTING OPERATIONAL TRIAL (Sec. 88; KV 99011)	TFL 20	Ministry of Forests Vancouver Region & MacMillan Bloedel	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.3.3.5	B	PACIFIC SILVER FIR PLUG AND TRANSPLANT OPERATIONAL TRIAL (Sec. 88; KV 99012)	TFL 20	Ministry of Forests Vancouver Region & MacMillan Bloedel	As in title
1.3.3.5		HIGH ELEVATION SPECIES AND STOCK TYPE TRIALS (E.P. 759)		Ministry of Forests Vancouver Res. Br./CFS - F.T. Pendl, J.Arnott	As in title
1.3.3.5	Se	AN ALTITUDINAL TEST OF A LOW ELEVATION SEED SOURCE OF ENGLEMANN SPRUCE (E.P. 662)	Larch Hills, McGillivary Lk.	Ministry of Forests Vernon Res. Station	As in title
1.3.3.5	Fd	SURVIVAL AND INITIAL GROWTH OF MORPHOLOGICALLY DEFINED CLASSES OF DOUGLAS-FIR PLANTING STOCK ON HIGH SITE LANDS SUBJECT TO DENSE COVER (E.P. 589)	Vancouver	Ministry of Forests Vancouver Forest Reg. - F.T. Pendl	As in title
1.3.3.5		COMPARISON OF FOUR AGE-CLASSES OF DOUGLAS-FIR PLANTING STOCK 21 YEARS AFTER PLANTING (E.P. 586)		Ministry of Forests Research Branch - G. Krumlik	As in title
1.3.3.5	B	AMABILIS FIR STOCK TYPE TRIAL (SX 84103V)	Gold River	Ministry of Forests Vancouver Forest Region - F.T. Pendl	Compare the growth and survival of 4 stocktypes of amabilis fir planted in four locations near Gold River
1.3.3.5	B	ABAM STOCK TYPES - OP. TRIAL (315.5)	Vancouver Island	MacMillan Bloedel Ltd. - B.G. Dunsworth	To develop and document, on an operational basis, MB experience basis, with various stock types and species
1.3.3.5	Se	ES STOCK TYPES - OP. TRIAL (315.6)	Vancouver Island	MacMillan Bloedel Ltd. - B.G. Dunsworth	To develop and document, on an operational basis, MB experience basis, with various stock types and species
1.3.3.5	Fd	Df STOCK TYPES - OP. TRIAL (315.4)	Vancouver Island	MacMillan Bloedel Ltd. - B.G. Dunsworth	To develop and document, on an operational basis, MB experience basis, with various stock types and species
1.3.3.5	Fd	MORPHOLOGICAL AND PHYSIOLOGICAL QUALITY OF Df (315.10)	Vancouver Island	MacMillan Bloedel Ltd. - B.G. Dunsworth	To determine the surval & growth differances between Df, 1+0, PSB 313 planting stock- small and large buds

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.3.3.5		PLANTING TRIALS IN THE PRINCE RUPERT FOREST REGION (E.P. 502)		Ministry of Forests Prince Rupert Res. Sec. - J. Pollack	As in title
1.3.3.5	Pl	EFFECT OF PLANTING SEASON AND STOCK TYPE ON LODGEPOLE PINE SEEDLING PERFORMANCE (E.P. 695)		Ministry of Forests Prince Rupert Res. Sec. - J. Pollack	As in title
1.3.3.5		TREE SPECIES TRIAL IN THE KITIMAT VALLEY (E.P. 712)		Ministry of Forests Prince Rupert Res. Sec. - J. Pollack	As in title
1.3.3.5		PLANTATION TRIALS IN THE KAMLOOPS FOREST REGION (E.P. 790) INCLUDES 2 STUDIES		Ministry of Forests Kamloops Res. Sec.	As in title
1.3.3.5		TREE SPECIES TRIAL ON THE QUEEN CHARLOTTE ISLANDS (E.P. 814)	Queen Charlotte Islands	Ministry of Forests Prince Rupert Res. Sec. - J. Pollack	As in title
1.3.3.5	Sw, Se	WELDWOOD STOCK TRIALS FOR BRUSHY SITES (PSB211 1+0 plugs, 2+0 bareroot, (15 cm), 2+0 bareroot (10-15 cm),2+1 bareroot and 1-1/2+1/2 transplant)	Horsefly, TSHL A01964	Weldwood of Canada Merrill & Wagner Ops - V. Grainger	To compare the performance of 5 spruce stock types
1.3.3.5		ASSESSMENT OF RE-ESTABLISHMENT TECHNIQUES FOR HIGH SITE CUTOVER LANDS	Holberg	Western Forest Products - J. Barker	To test fertilizers, stock type and 3 herbicides on high site alluvial land
1.3.3.5		COMPARISON OF PLANTING ALTERNATIVES	Vancouver	Ministry of Forests Silviculture Branch - van Eerden	To determine an appropriate establishment technique and the expected resultant m.a.i.
1.3.4.0	Cw, Yc, B, Fd, H, Ss	ADAPTABILITY OF TREE SPECIES TO SITES (E.P. 368)	Ucluelet	Ministry of Forests Research Branch - S. Omule	Test performance of various tree species at three locations
1.3.4.0	Pw	TREE SPECIES IN THE CARIBOO FOREST REGION (SPECIES TRIAL INCLUDING WHITE PINE IN THE ICH (b) SUBZONE) (E.P. 904)	Cariboo	Ministry of Forests Cariboo Res. Sec. - A. Vyse	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.4.0.0	Fd	GROWTH AND BIOLOGY OF COASTAL DOUGLAS-FIR ECOSYSTEMS IN RELATION TO STAND TENDING (PC-23)	Shawnigan Lake	Can. Forestry Service PFRC - H. Bix	To ascertain crop and environmental responses to silviculture
1.4.0.0	Fd	a) FERTILIZING AND THINNING TRIALS (PC-23-003)	Shawnigan Lake	Can. Forestry Service PFRC - H. Barclay	As in title
1.4.0.0	Fd	b) NUTRIENT DISTRIBUTION (PC-23-005)	Shawnigan Lake	Can. Forestry Service PFRC - P. Pang	As in title
1.4.0.0	Fd	c) PHYSIOLOGY OF GROWTH (PC-23-006)	Shawnigan Lake	Can. Forestry Service PFRC - H. Brix	As in title
1.4.0.0	Fd	d) NITROGEN MOVEMENT (PC-23-094)	Shawnigan Lake	Can. Forestry Service PFRC - P. Pang	As in title
1.4.0.0	Fd	e) ROLE OF SOIL FAUNA (PC-23-109)	Shawnigan Lake	Can. Forestry Service PFRC - V. Marshall	As in title
1.4.0.0	Fd	f) SOIL MICROFLORA (PC-23-134)	Shawnigan Lake	Can. Forestry Service PFRC - J. Trofymow	As in title
1.4.0.0	Fd	g) BIOLOGICAL MODELLING (PC-23-337)	Shawnigan Lake	Can. Forestry Service PFRC - H. Barclay	As in title
1.4.0.0	Fd	h) EARTHWORM ECOLOGY (PC-23-378)	Shawnigan Lake	Can. Forestry Service PFRC - V. Marshall	As in title
1.4.0.0	Fd	i) CAMBIAL ACTIVITY (PC-23-394)	Shawnigan Lake	Can. Forestry Service PFRC - A. Mitchell	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.4.0.0	Fd	J) WOOD QUALITY (PC-23-425)	Shawnigan Lake	Can. Forestry Service PFRC - H. Brix	As in title
1.4.0.0	Pl	THE EFFECTS OF STAND DENSITY ON THE TOP HEIGHT OF LODGEPOLE PINE STANDS IN THE CARIBOO FOREST REGION (E.P. 842)	Cariboo	Ministry of Forests Cariboo Res. Sec. - A. Vyse	As in title
1.4.0.0		SILVICULTURE	Vancouver Island	Pacific Forest Products - V.J. Korelus	To conduct research projects which will enhance our knowledge about tree species and their management
1.4.0.0		TREE-RING ANALYSES TO IMPROVE YIELDS OF NATURAL AND PLANTED STANDS	Vancouver	UBC - Forestry - J.H.G. Smith	As in title
1.4.1.0		SALAL REMOVAL AND ITS IMPACT ON CROP TREE PERFORMANCE (Sec. 88; KV 99010)	TFL 39	Ministry of Forests Vancouver Region & MacMillan Bloedel	As in title
1.4.1.0		OPERATIONAL BRUSH CONTROL (Sec. 88; KV 99007)	TFL 39	Ministry of Forests Vancouver Region & MacMillan Bloedel	As in title
1.4.1.0	Fd, Dr	INTERACTIONS OF ALDER AND DOUGLAS-FIR (Sec. 88; KV 99016)	TFL 21	Ministry of Forests Vancouver Region & MacMillan Bloedel	As in title
1.4.1.0		TREE INJECTION SYSTEM (E.P. 867)	Cowichan Lake, Cranbrook, Cariboo	Ministry of Forests Research Branch - B. Dillistone	To develop effective, efficient system for selective herbicide application
1.4.1.0		2,4-D AMINE HERBICIDE TRIALS AS A FOLIAR TREATMENT IN YOUNG STANDS (Sec. 88)		B.C. Forest Products/ Ministry of Forests -	A series of trials to generate the necessary data to assist in the permanent registration of this herbicide
1.4.1.0	Sw	EVALUATION OF 2, 4-D AMINE AND GLYPHOSATE FOR HARDWOOD CONTROL USING TWO, SINGLE TREE APPLICATION METHODS SX83404G	Mackenzie	Ministry of Forests Pr. George Res. Sec. - L. Herring, G.Ackerman	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.4.1.0	Sw	THE USE OF HERBICIDES FOR THE CONTROL OF CALAMAGROSTIS GRASS IN PLANTATIONS OF THE PEACE RIVER SX83405G	Alaska Highway Mile 106	Ministry of Forests Pr. George Res. Sec. - L. Herring	As in title
1.4.1.0	O	OPERATIONAL TRIAL OF THE HERBICIDE ROUNDUP AT PENDER HARBOUR (SX 83408V)	Pender Harbour	Ministry of Forests Vancouver Region - F.T. Pendl	Examine the effect of Roundup, applied at three application rates, on Bigleaf Maple
1.4.1.0		CONIFER RELEASE WITH GARLON AT McGUIRE CREEK - OPERATIONAL TRIAL (SX 83409V)	McGuire Creek, Chilliwack	Ministry of Forests Vancouver Forest Region - F.T. Pendl	Examine the effect of Garlon, applied at three application rates on a variety of vegetation
1.4.1.0	Dr	EFFECT OF TIMING ON THE SUCCESS OF MECHANICAL CONTROL OF RED ALDER-OPERATIONAL TRIAL (SX83701V)	Okeover Inlet, Powell River	Ministry of Forests Vancouver Region - F.T. Pendl	As in title
1.4.1.0	Fd	SALAL REMOVAL AND ITS IMPACT ON CROP TREE PERFORMANCE (314-2) (Sec. 88)	Dunsmuir Creek	MacMillan Bloedel - B.G. Dunsworth	Study effects of salal removal on Douglas-fir growth
1.4.1.0		EFFECTS OF A HERBICIDE ON SOIL FAUNA IN A CONIFEROUS PLANTATION	Carnation Creek	UBC - Botany - R.J. Bandoni	As in title
1.4.1.0		ECOPHYSIOLOGICAL STUDY OF THE EFFECTS OF BRUSH COMPETITION ON SEEDLING GROWTH	UBC Research Forest Haney	UBC - Forestry - J.P. Kimmins (R. Bigley)	To quantify the micro-environment in brush and its effect on seedling growth
1.4.1.0	Fd	Df/SALAL REMOVAL TRIAL (314.2)	Vancouver Island	MacMillan Bloedel Ltd. - B.G. Dunsworth	To determine the height and volume impacts of salal removal on Df crop trees
1.4.1.0		HERBICIDES AND OTHER CHEMICALS AND THE FOREST ENVIRONMENT (PC-51)	B.C. & Yukon	Can. Forestry Service PFRC - J.F. Manville	As in title
1.4.1.0		a) HERBICIDE-INDUCED CHANGES IN CROP TREES (PC-51-358)	B.C. & Yukon	Can. Forestry Service PFRC - J.F. Manville	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.4.1.0		b) CROP TREE AND VEGETATION RESPONSE TO HERBICIDE APPLICATIONS IN FOREST ECOSYSTEMS (PC-51-430)	B.C. & Yukon	Can. Forestry Service PFRC - A. Gardner	As in title
1.4.1.0		c) PHYSICAL AND BIOLOGICAL CHARACTERISTICS OF N.S.R. SITES IN B.C. (PC-51-432)	B.C. & Yukon	Can. Forestry Service PFRC - J. Senyk	As in title
1.4.1.0		DEVELOPMENT OF VEGETATION MANAGEMENT OF COASTAL ALLUVIAL SITES (E.P. 885) INCLUDES 4 STUDIES	North Coast	Ministry of Forests Prince Rupert Res. Sec. -J. Pollack	To test a range of vegetation management strategies
1.4.1.0	Sw	FOREST VEGETATION MANAGEMENT STUDIES IN THE SUBBOREAL SPRUCE ZONE	McGregor R., Trapping L. Blackwater C. Walker C.	Ministry of Forests Pr. George Res. Sec. - L. Herring	To compare the efficacy of chemical and manual weed control in plantations of white spruce & lodgepole pine
1.4.1.0		OPERATIONAL BRUSH CONTROL TRIAL (491.2)	Vancouver Island	MacMillan Bloedel Ltd. - B.G. Dunsworth	To compare safety and cost-effectiveness of manual and chemical brush control methods
1.4.1.0		FOREST PROTECTION, HERBICIDES IN FORESTS	Vancouver Island	Pacific Forest Products - R.H. Heath	To evaluate and recommend on use of the herbicides in forest management
1.4.1.0	Cw, H, B	ESTABLISHMENT TRIAL	Port McNeill	Western Forest Products - J. Barker	To test, in combination, three tree species plus cultivation weed control and burning
1.4.1.0		EFFECT OF SEASON AND TREATMENT OF ALDER OVERSTORY REMOVAL	UBC	UBC - Forestry - J.P. Kimmins	As in title
1.4.2.0		EFFECTS OF DIFFERENT JUVENILE THINNING TECHNIQUES	UBC	UBC - Forestry - P.W. Sanders	As in title
1.4.2.0	Cw, Hw	ESPACEMENT TRIALS IN THE PRINCE RUPERT FOREST REGION (E.P. 964) Two studies	Kitimat Valley	Ministry of Forests Research Branch	To determine the effects of initial espacement on growth, development and yield

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.4.2.0		SPACING TRIALS OF PURE AND MIXED STANDS (E.P. 429)		Ministry of Forests Research Branch - S.A.Y. Omule	As in title
1.4.2.0	Fd	SPACING TRIAL OF DOUGLAS-FIR (E.P. 534)	16 Creek Vancouver Island	Ministry of Forests Research Branch - S.A.Y. Omule	As in title
1.4.2.0	Py	EFFECTS OF INITIAL SPACING OF THE GROWTH AND DEVELOPMENT OF PONDEROSA PINE (E.P. 607)		Ministry of Forests Kamloops Res. Sec. - C.F. Thompson	As in title
1.4.2.0	Pl	EFFECTS OF JUVENILE SPACING ON INDIVIDUAL TREE GROWTH IN OVERSTOCKED STANDS OF LODGEPOLE PINE (E.P. 630)	Sheraton	Ministry of Forests Prince Rupert Res. Sec. - J. Pollack	As in title
1.4.2.0	Pl	SPACING TRIALS IN LODGEPOLE PINE (E.P. 671) (INCLUDES 3 STUDIES)	Fraser Lake, Lac le Jeune	Ministry of Forests - L. Herring, J. Pollack	To determine the effects of initial spacing on subsequent development of Pl in plantations (see also 1.3.3.3)
1.4.2.0	Pl	SHORE PINE SPACING AND PROVENANCE TRIAL (E.P. 692)		Ministry of Forests Research Branch - C.C. Ying	As in title
1.4.2.0	Pl	GROWTH ENHANCEMENT OPTIONS FOR DENSE IMMATURE LODGEPOLE PINE STANDS (E.P. 789) INCLUDES 6 STUDIES	Prince George	Ministry of Forests Pr. George Res. Sec. - L. Herring	As in title
1.4.2.0	Pl	THE EFFECT OF SPACING ON THE GROWTH & YIELD OF OF LODGEPOLE PINE (E.P. 922)		Ministry of Forests Research Branch - W. Johnstone	As in title
1.4.2.0		MECHANIZATION OF SILVICULTURE: JUVENILE SPACING	Vancouver	FERIC - I.B. Hedin, J. Ewart	To define the objectives and requirements of juvenile spacing machines and suggest methods to mechanize
1.4.2.0	Ss	MORESBY SITKA SPRUCE SEED PRODUCTION AREA	TFL24, Moresby	Western Forest Products - J. Barker	Initial objective abandoned; juvenile spacing demonstration

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.4.2.0	Fd, H, Cw	LONGTERM EFFECTS OF INITIAL SPACING AND OTHER FACTORS ON GROWTH AND YIELD	Vancouver	UBC - Forestry - J.H.G. Smith	To document the effects of spacing, rectangularity and species on stand development, value and yields
1.4.3.0	Fd	SUCCESSIVE THINNINGS IN A NATURAL STAND OF DOUGLAS-FIR (E.P. 62, 63, 64, 66, 283)		Ministry of Forests Research Branch - S.A.Y. Omule	As in title
1.4.3.0		THINNING AND PRUNING DEMONSTRATION PLOTS (E.P. 204, 205, 499) SEE ALSO 1.4.4.0		Ministry of Forests Research Branch - S.A.Y. Omule	As in title
1.4.3.0	Fd	COMMERCIAL THINNING IN DOUGLAS-FIR (E.P. 364)	Cowichan Lake	Ministry of Forests Research Branch - S. Omule	To compare yields in commercially-thinned and unthinned stands
1.4.3.0	Fd	THINNING STUDY IN DOUGLAS-FIR (E.P. 365)	Cowichan Lake	Ministry of Forests Research Branch - S. Omule	To relate growth and yield to growing space and volume increment
1.4.3.0	Pl	THINNING EXPERIMENT IN LODGEPOLE PINE (E.P. 384,385)	Canal Flats	Ministry of Forests Nelson Res. Sec. - C.F. Thompson	To study the effects of thinning intensity on growth, yield and susceptability to beetle attack
1.4.3.0	Cw	COMMERCIAL THINNINGS IN WESTERN HEMLOCK (E.P. 388)	E. Thurlow Island	Ministry of Forests Research Branch	To compare yields in commercially-thinned and unthinned stands
1.4.3.0	Lw	CROP TREE THINNING OF WESTERN LARCH, (E.P. 511)	Perry Creek, East Kootenays	Ministry of Forests Nelson Res. Sec. - C.F. Thompson	As in title
1.4.3.0	Py	EXPERIMENTAL THINNING AND PRUNING OF PONDEROSA PINE (E.P. 517) (SEE ALSO 1.4.4.0)	Lambly Creek, Kelowna	Ministry of Forests Kamloops Res. Sec.	To determine which thinning and pruning regime produces peeler logs most quickly
1.4.3.0	Fd, H	RESPONSES OF IMMATURE DOUGLAS-FIR AND WESTERN HEMLOCK TO THINNING AND FERTILIZER APPLICATION (E.P. 703) SEE ALSO 1.4.6.0		Ministry of Forests Research Branch - Barker, Godfrey	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.4.3.0	Pl	FERTILIZING AND THINNING IN INTERIOR FORESTS (E.P. 886) INCLUDES 3 STUDIES, SEE ALSO 1.4.6.0		Ministry of Forests Research Branch (Barker, Brockley, Draper)	As in title
1.4.3.0	Pl	A STUDY TO DETERMINE THE EFFECTS OF INITIAL ESPACEMENT AND SUBSEQUENT THINNING ON THE GROWTH AND YIELD OF LODGEPOLE PINE PLANATATIONS (E.P. 962)		Ministry of Forests Kamloops Res. Sec. - W.D. Johnstone	As in title
1.4.3.0	Fd, H	THE EFFECT OF THINNING AND FERTILIZATION ON THE GROWTH AND YIELD OF SECOND GROWTH STAND (sic) (2-002) (Sec. 88 HV 99037)	Quadra Island	Crown Forest Industries - F.T. Leslie	To determine the effect of various thinning and fertilization on growth, value, costs, mortality & soil damage
1.4.3.0		COMPETITION OF UNDERSTOREY TREES IN A JUVENILE-SPACED STAND (2-009) (Sec. 88)	Nanaimo, Beaver Cove, Sandspit	Crown Forest Industries - F.T. Leslie	To assess the unthinned smaller trees on crop trees and observe the fate of these in a spaced stand
1.4.3.0		INCREMENT CORE SAMPLING IN PRODUCTIVITY TRIALS	Vancouver	UBC - Forestry - J.H.G. Smith	To relate changes in ring width and latewood proportions to thinning and fertilizing treatments
1.4.3.0	C, H, L, Fd, Pw	PARTIAL CUTTING STUDY IN THE COLUMBIA FOREST ZONE (E.P. 370)	Fosthall Creek TFL 23	Ministry of Forests Nelson Res. Sec. - C.F. Thompson	To investigate the growth response of a mixed immature stand after three intensities of partial cutting
1.4.5.0		QUANTITATIVE ASSESSMENT OF BIOLOGICAL CONTROL AGENTS AND PROCEDURES	SFU	Simon Fraser University - M. Mackauer	As in title
1.4.5.0		DEVELOPMENT OF PEST MANAGEMENT SYSTESM (PC-40)	B.C. & Yukon	Can. Forestry Service PFRC - W.J. Bloomberg	To develop computer system applications to management of major insect or disease pests
1.4.5.0		a) BIOSYSTEMS ANALYSIS OF FOREST PESTS (PC-40-252)	B.C. & Yukon	Can. Forestry Service PFRC - A. Thompson	As in title
1.4.5.0	H	b) CONTROL OF DWARF MISTLETOE ON IMMATURE W. HEMLOCK STANDS (PC-40-275)	B.C. & Yukon	Can. Forestry Service PFRC - W. Bloomberg	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.4.5.0	Fd	c) SIMULATION ROOT ROT IN 2ND GROWTH DOUGLAS-FIR STANDS (PC-40-276)	B.C. & Yukon	Can. Forestry Service PFRC - W. Bloomberg	As in title
1.4.5.0	S	d) QUANTITATIVE STUDY OF W.S.B. POPULATION DYNAMICS AND IMPACT (PC-40-353)	B.C. & Yukon	Can. Forestry Service PFRC - A. Thomson	As in title
1.4.5.0		e) STAND MODELLING FOR PEST, DISEASE AND FOREST MANAGEMENT IMPACT EVALUATION (PC-40-393)	B.C. & Yukon	Can. Forestry Service PFRC - A. Thomson	As in title
1.4.5.0		PROTECTION OF SEEDS, CONES AND SEEDLINGS FROM INSECTS AND DISEASES (PC-44)	B.C. & Yukon	Can. Forestry Service PFRC - J. Sutherland	1. To identify major insect and disease pests of nurseries, seed orchards and reforested sites;
1.4.5.0		PROTECTION OF SEEDS, CONES AND SEEDLINGS FROM INSECTS AND DISEASES (PC-44)	B.C. & Yukon	Can. Forestry Service PFRC - J. Sutherland	2. to develop appropriate management strategies;
1.4.5.0		PROTECTION OF SEEDS, CONES AND SEEDLINGS FROM INSECTS AND DISEASES (PC-44)	B.C. & Yukon	Can. Forestry Service PFRC - J. Sutherland	3. to develop early detection and prediction techniques.
1.4.5.0		a) INSECTS AFFECTING SEED PRODUCTION (PC-44-027)	B.C. & Yukon	Can. Forestry Service PFRC - G.E. Miller	As in title
1.4.5.0		b) CONE AND SEED DISEASES (PC-44-246)	B.C. & Yukon	Can. Forestry Service PFRC - J. Sutherland	As in title
1.4.5.0		c) CYTOLOGICAL INVESTIGATIONS OF DIAPAUSE IN CONE AND SEED INSECTS (PC-44-365)	B.C. & Yukon	Can. Forestry Service PFRC - T. Sahota	As in title
1.4.5.0		d) DERIVATION OF MONOCLONAL ANTIBODIES TO DETECT Sirococcus strobilinus (PC-44-396)	B.C. & Yukon	Can. Forestry Service PFRC - L. Mitchell	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.4.5.0		BIOCHEMICAL CHARACTERISTICS OF SEEDS (PC-44-346)	B.C. & Yukon	Can. Forestry Service PFRC - E. White	As in title
1.4.5.0		DAMAGE APPRAISAL (PC-62)	B.C. & Yukon	Can. Forestry Service PFRC - G.A. van Sickle	To quantify and relate losses to insect and disease to infestation levels
1.4.5.0		a) DAMAGE APPRAISAL METHODOLOGY RESEARCH AND APPLICATION (PC-62-101)	B.C. & Yukon	Can. Forestry Service PFRC - R. Alfaro	As in title
1.4.5.0		BIOLOGICAL CONTROL OF FOREST PESTS (PC-63)	B.C. & Yukon	Can. Forestry Service PFRC - M. Hulme	To evaluate the use of selected natural enemies for control of forest pests
1.4.5.0		a) DEVELOPMENT OF BEHAVIOUR-MODIFYING CHEMICALS OF PARASITOIDS/PREDATORS ON THEIR HOSTS (PC-63-113)	B.C. & Yukon	Can. Forestry Service PFRC - T. Gray	As in title
1.4.5.0		b) ROLE OF MICRO-ORGANISMS IN BARK BEETLE EPIDEMIOLOGY (PC-63-127)	B.C. & Yukon	Can. Forestry Service PFRC - H. Whitney	As in title
1.4.5.0		c) USE OF PARASITOIDS AND PREDATORS FOR BIOLOGICAL CONTROL OF INSECT DEFOLIATORS (PC-63-151)	B.C. & Yukon	Can. Forestry Service PFRC - I. Otvos	As in title
1.4.5.0		d) SUPPRESSION OF DEFOLIATING INSECTS BY MICROBIALS (PC-63-289)	B.C. & Yukon	Can. Forestry Service PFRC - I. Otvos	As in title
1.4.5.0		e) USE OF PARASITOIDS AND PREDATORS TO CONTROL BARK BEETLES (PC-63-414)	B.C. & Yukon	Can. Forestry Service PFRC - H. Moeck	As in title
1.4.5.0	S	f) BIOLOGICAL CONTROL OF P. strobi ON SPRUCE IN B.C. (PC-63-415)	B.C. & Yukon	Can. Forestry Service PFRC - J. Harris	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.4.5.0		g) COMPUTER SIMULATIONS OF BIOLOGICAL CONTROL (PC-63-416)	B.C. & Yukon	Can. Forestry Service PFRC - A. Thomson	As in title
1.4.5.0		h) TREE AND STAND SUSCEPTIBILITY TO DEFOLIATORS AND MANAGEMENT CONTROL POSSIBILITIES (PC-63-417)	B.C. & Yukon	Can. Forestry Service PFRC - R. Shepherd	As in title
1.4.5.0		FOREST PROTECTION, IN SEED ORCHARDS IN NURSERIES	Vancouver Island	Pacific Forest Products - R.H. Heath	To minimize losses due to diseases, insects and weeds in nurseries and seed orchards
1.4.5.1	Fd	IMPACT OF DEER BROWSING (2-017) (Sec. 88 JV99028)	Johnstone Straits	Crown Forest Industries - W.A. Kenney & S.W. Lorimer	Test various types of protection systems & determine effect on survival & growth of D.-fir seedlings
1.4.5.1	Pl	LODGEPOLE PINE SEED DAMAGE BY DEER MICE AND RELATED SMALL MAMMALS (E.P. 839)		Ministry of Forests Research Branch - T.P. Sullivan	As in title
1.4.5.1	Pl	THE EFFECTS OF HARE AND SQUIRREL DAMAGE ON MANAGED STANDS IN THE B.C. INTERIOR (E.P. 845) INCLUDES 2 STUDIES	Bowes Creek, Alex Graham Mt.	Ministry of Forests Research Branch - T.P. Sullivan	As in title
1.4.5.3		FIRE OCCURRENCE PREDICTION	Nelson	Ministry of Forests Protection Branch - D. Gilbert	To predict man and lightning fire numbers during the fire season
1.4.5.3		FIRE RESEARCH FOR IMPROVED FOREST RESOURCE MANAGEMENT (PC-30)	B.C. & Yukon	Can. Forestry Service PFRC - B.D. Lawson	To improve fire control and understanding of fire for habitat management
1.4.5.3		a) EXTENSION OF FOREST FIRE DANGER RATING SYSTEM (PC-30-284)	B.C. & Yukon	Can. Forestry Service PFRC - B.D. Lawson	As in title
1.4.5.3		b) PRESCRIBED FIRE EFFECTS ON TREE ESTABLISHMENT, SURVIVAL AND PRODUCTIVITY (PC-30-402)	B.C. & Yukon	Can. Forestry Service PFRC - B.C. Hawkes	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.4.5.3	Fd	IMPACT OF PRESCRIBED BURNING ON FOREST PRODUCTIVITY (see also 1.3.1.2)	Coastal B.C.	MacMillan Bloedel - T.P. Rollerson	Assess the effects of burning on a) site productivity; b) growth of Douglas-fir; c) competing vegetation
1.4.5.3		DRAG REDUCTION INJECTION FOR FIRE CONTROL FIELD UNIT PREPARATION		UBC - Forestry - N. Franz	As in title
1.4.5.4		INVESTIGATION OF TUSSOCK MOTH PHEROMONES	SFU	Simon Fraser University Slessor, Grant - FPMI	As in title
1.4.5.4		ISOLATION OF IDENTIFICATION OF THE SEX PHEROMONE OF THE DOUGLAS-FIR CONE GALL MIDGE, Contarinia oregonensis	SFU	Simon Fraser University Slessor, Borden, Miller-PFRC	As in title
1.4.5.4		MANAGEMENT OF THE MOUNTAIN PINE BEETLE WITH SEMIOCHEMICALS	SFU	Simon Fraser University - J. Borden	As in title
1.4.5.4		AMBROSIA BEETLE RESEARCH SUBCONTRACT	SFU	Simon Fraser University - J. Borden (with C. Oehlschlager)	As in title
1.4.5.4		SEMIOCHEMICALS FOR FOREST INSECT PESTS	SFU	Simon Fraser University - J. Borden, (with Oehlschlager, Slessor)	As in title
1.4.5.4		CHEMICAL ECOLOGY AND NATURAL PRODUCT CHEMISTRY OF CANADIAN INSECT PESTS	SFU	Simon Fraser University - J. Borden	As in title
1.4.5.4		DEVELOPMENT OF AN OPTIMAL PHEROMONE-BAITED TRAPPING SYSTEM FOR MONITORING WESTERN SPRUCE BUDWORM POPULATIONS		UBC - Forestry - J.A. McLean	As in title
1.4.5.4		TOWARDS THE MANAGEMENT OF AMBROSIA BEETLES IN FOREST SETTINGS		UBC - Forestry - J.A. McLean	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.4.5.4		TO DEFINE AND OPTIMIZE COSTS AND BENEFITS OF AMBROSIA BEETLE MONITORING AND SUPPRESSION		UBC - Forestry - J.A. McLean	As in title
1.4.5.4		ASSESSMENT OF CIR PHOTOGRAPHY FOR PINE BEETLE DETECTION (see also 1.5.2.0)	Prince George, Prince Rupert	Ministry of Forests Protection Branch (various)	To compare large scale CIR photography with conventional procedures for delineating attacked areas
1.4.5.4	B	ASSESSMENT OF BALSAM BARK BEETLE	Prince Rupert	Ministry of Forests Protection Branch (various)	To assess Abies mortality in terms of stand type, pathogens and insects
1.4.5.4		PHEROMONE RELEASE DEVICES FOR INSECT PEST CONTROL	Vancouver	UBC - Chemical Eng. - A. Nelsen (Sci. Council of B.C.)	To produce an effective device for releasing insect pheromones in the wild
1.4.5.4		REDUCTION OF LOSSES FROM BARK- AND WOOD-BORING INSECTS (PC-06)	B.C. & Yukon	Can. Forestry Service PFRC - L. Safranyik	As in title
1.4.5.4		a) REPRODUCTIVE AND METABOLIC PHYSIOLOGY OF BARK BEETLES (PC-05-033)	B.C. & Yukon	Can. Forestry Service PFRC - T.S. Sahota	As in title
1.4.5.4		b) KEY FACTOR POPULATION STUDIES OF BARK BEETLES (PC-06-126)	B.C. & Yukon	Can. Forestry Service PFRC - L. Safranyik	As in title
1.4.5.4		c) HOST SELECTION AND COLONIZATION BEHAVIOUR OF BARK BEETLES (PC-06-251)	B.C. & Yukon	Can. Forestry Service PFRC - H.A. Moeck	As in title
1.4.5.4		d) BARK BEETLE DISPERSAL (PC-06-386)	B.C. & Yukon	Can. Forestry Service PFRC - L.H. McMullen	As in title
1.4.5.4	Sw	TEST OF LETHAL TRAP TECHNIQUE FOR SPRUCE BEETLE CONTROL (E.P. 852)	Topley Landing	Ministry of Forests Prince Rupert Res. Sec. - J. Pollack	To test the efficacy of spruce trap trees treated with insecticide and pheromone

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.4.5.4	Pl	POTENTIALLY DAMAGING INSECTS IN INTENSIVELY MANAGED STANDS OF LODGEPOLE PINE (E.P. 894)	Cariboo	Ministry of Forests Cariboo Res. Sec./UBC - A. Vyse, J. McLean	To elucidate the life history of T.weevil and relate stand parameters to liability and damaging attacks
1.4.5.4		INSECT CONTROL - DEVELOPMENT OF CLIMBING TREE/SAW DEBARKER TO KILL OVERWINTERING BARK BEETLES IN BROOD TREES	Vancouver	FERIC/CFS-PFRC - D.C. Moulson	As in title
1.4.5.4		ISOLATION, IDENTIFICATION AND SYNTHESIS OF AGGREGATION PHEROMONES OF THE WESTERN BALSAM BARK BEETLE AND THE FOUR-EYED BARK BEETLE	SFU	Simon Fraser University - J.H. Borden & A.C. Oehlschlager	As in title
1.4.5.4		TOXICITY OF ORTHENE	SFU	Simon Fraser University - G.H. Geen & others	To determine the toxicity and behaviour of acephate (Orthene), an organophosphoric insecticide
1.4.5.4		CLASSIFICATION OF IMMATURE INSECT PARASITES OF FOREST AND AGRICULTURAL INSECT PESTS	SFU	Simon Fraser University - T. Finlayson	As in title
1.4.5.4		WIND TUNNEL ANALYSIS AND DEVELOPMENT OF PHEROMONE-BASED FOREST INSECT TRAPPING SYSTEMS	Vancouver	UBC - Forestry - B.S. Lindgren	As in title
1.4.5.4		BEHAVIOURAL RESPONSES OF ADULT FOREST INSECTS TO THEIR PHEROMONES IN A WIND TUNNEL	Vancouver	UBC - Forestry - J.A. McLean	To improve trap design
1.4.5.4	Fd, H	STUDIES OF FOREST INSECTS IN B.C. WITH SPECIAL REFERENCE TO DEFINING MINERAL PROFILES OF INSECTS	Vancouver	UBC - Forestry - J.A. McLean	To define mineral profiles of insects & their appli. in studies of nutrition, nutrient cycling & dispersal
1.4.5.4	Ss	STUDIES OF THE WHITE PINE WEEVIL ON SITKA SPRUCE IN B.C.	Vancouver Island	UBC - Forestry - J.A. McLean	Studies of repellents and remote sensing surveys
1.4.5.4.		USE OF PHEROMONES TO CONTROL INSECT PESTS IN THE B.C. FORESTRY AND AGRICULTURAL INDUSTRIES	Vancouver	UBC - Chemistry - L. Weller/ (Sci. Council of B.C.)	To study a group of naturally occurring insect sex attractant chemicals called pheromones

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.4.5.4		TO DEVELOP TECHNOLOGY TO PRODUCE CHEMICAL SEX ODORS USEFUL IN TRAPPING FOREST INSECTS	UBC	UBC - Chemistry - L. Weiler	As in title
1.4.5.4		COLOUR-INFRARED ANALYSIS OF MOUNTAIN PINE BEETLE AND SPRUCE BARK BEETLE ATTACK	Vancouver	UBC - Forestry - P.A. Murtha/ (Sci. Council of B.C.)	A comparison of bark beetle damage detection between ground probes and remote sensing
1.4.5.4		FOREST PROTECTION, Ambrosia BEETLES	Vancouver Island	Pacific Forest Products - R.H. Heath	Develop programs to reduce damage to harvested timber by Ambrosia beetles
1.4.5.4		FIELD STUDIES OF PHEROMONE ATTRACTANCY IN THE WINTER MOTH AND SPAN WORM	U. Victoria	University of Victoria - (Biology - Ring) (Sci. Council of B.C.)	To arrest spread and reduce damage to trees & shrubs by 2 Operophera spp.
1.4.5.5	Pw	WHITE PINE BLISTER RUST BREEDING FOR RESISTANCE (see also 1.1.6.0)	Province-wide	Ministry of Forests Protection Branch (various)	To cooperate in selection and screening of potentially resistant trees
1.4.5.5		TRIAL OF A VIBRO STUMP PULLER	Victoria	Ministry of Forests Protection Branch (various)	To assess disease-reduction effects of removal of infected stumps
1.4.5.5		PROTECTION OF 2ND GROWTH STANDS FROM ROOT AND STEM DISEASES (PC-13)	B.C. & Yukon	Can. Forestry Service PFRC - W. Bloomberg	As in title
1.4.5.5		a) TAXONOMIC AND PATHOLOGICAL STUDIES IN FOREST FUNGI (PC-13-062)	B.C. & Yukon	Can. Forestry Service PFRC - A. Funk	As in title
1.4.5.5	Fd	b) DISEASE SAMPLING IN DOUGLAS-FIR PLANTATIONS (PC-13-071)	B.C. & Yukon	Can. Forestry Service PFRC - W. Bloomberg	As in title
1.4.5.5		c) Phellinus weirii ROOT-ROT: BIOLOGY AND CONTROL (PC-13-072)	B.C. & Yukon	Can. Forestry Service PFRC - D. Morrison	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.4.5.5		d) Fomes Annosus ROOT ROT: Biology and CONTROL (PC-13-073)	B.C. & Yukon	Can. Forestry Service PFRC - D. Morrison	As in title
1.4.5.5	Pw	e) WHITE PINE BLISTER RUST (PC-13-114)	B.C. & Yukon	Can. Forestry Service PFRC - R. Hunt	As in title
1.4.5.5		f) Armillaria ROOT DISEASE: STAND MANAGEMENT GUIDELINES (PC-13-135)	B.C. & Yukon	Can. Forestry Service PFRC - D. Morrison	As in title
1.4.5.5		g) MYCOLOGICAL SERVICES (PC-13-296)	B.C. & Yukon	Can. Forestry Service PFRC - D. Morrison	As in title
1.4.5.5		h) REMOTE SENSING ROOT ROT (PC-13-310)	B.C. & Yukon	Can. Forestry Service PFRC - J. Lee	As in title
1.4.5.5		i) HOST DEFENSE OF TREE DISEASES (PC-13-329)	B.C. & Yukon	Can. Forestry Service PFRC - G. Jensen	As in title
1.4.5.5		j) BLACK STAIN ROOT DISEASE (PC-13-379)	B.C. & Yukon	Can. Forestry Service PFRC - R. Hunt	As in title
1.4.5.5	Pl	POTENTIALLY DAMAGING DISEASES IN INTENSIVELY MANAGED STANDS OF INTERIOR LODGEPOLE PINE (E.P. 895)	Cariboo	Ministry of Forests Cariboo Res. Sec. - A. Vyse	As in title
1.4.5.5		ISTA SEED CERTIFICATION (PC-49-355)	B.C. & Yukon	Can. Forestry Service PFRC - D. Edwards	As in title
1.4.5.5	Pl	THE EFFECTS AND CONTROL OF LODGEPOLE PINE DWARF MISTLETOE IN THE CARIBOO FOREST REGION (E.P. 910)	Cariboo/Chilcotin	Ministry of Forests Research Branch - E. Wilford	To test dead tree filter strips to prevent spread of dwarf mistletoe on cutblock edges

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1.4.5.5	Pl	RESISTANCE OF LODGEPOLE PINE TO WESTERN GALL RUST	Vancouver	UBC - Forestry - B. van der Kamp	To determine the nature of the genetics of the host-parasite system
1.4.5.5	H	VARIATION IN RESISTANCE OF HEMLOCK TO DWARF MISTLETOE	Vancouver	UBC - Forestry - B. van der Kamp	To determine if there is significant variation in resistance to hemlock dwarf mistletoe between trees
1.4.5.5		ROOT DISEASES OF CONIFERS	Vancouver	UBC - Forestry - B. van der Kamp	To determine the method of spread, host specificity & impact of Polyporus tomentosus on northern conifers
1.4.5.5	Pw	PROGENY TEST OF BLISTER RUST RESISTANT WHITE PINE (259.1) (see also 1.1.6.0)	South central Vancouver Island	MacMillan Bloedel - R.C. Bower	Evaluate 'semi-resistant' white pine from the Idaho F1 seed orchard for: blister rust resistance, growth
1.4.5.5	Pw	INHERITANCE OF BLISTER RUST RESISTANCE CHARACTERISTICS (259.2) (see also 1.1.6.0)	South central Vancouver Island	MacMillan Bloedel - R.C. Bower	Determine if the rust canker inactivation is permanent as suggested by Hungerford
1.4.5.5	Pw	FOREST PROTECTION, WESTERN WHITE PINE BLISTER RUST	Vancouver Island	Pacific Forest Products - R.H. Heath	To breed strains of western white pine resistant to blister rust
1.4.6.0	H	N. FERTILIZATION OF COASTAL WESTERN HEMLOCK (Sec. 88, KV 99026)	TFL 2	Ministry of Forests Vancouver Region & Crown Forest Industries	As in title
1.4.6.0	Fd	EVALUATING GROWTH RESPONSE IN OPERATIONALLY FERTILIZED DOUGLAS-FIR STANDS	Vancouver Island	UBC - Soil Science -	Test methods for evaluating ... stands where there are no adjacent unfertilized areas in similar stands
1.4.6.0	Dr, Fd	INTERACTIONS OF ALDER AND Df (552.9)	Vancouver Island	MacMillan Bloedel Ltd. - R.C. Bower	To examine competition between alder & Df on Mt. Benson through removal of the alder & additions of fertilizers
1.4.6.0		FATE OF NITROGENOUS FERTILIZER APPLIED TO SNOW (PC-57)	Spillimacheen & Vancouver Island	Can. Forestry Service PFRC - V.G. Marshall	As in title

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1.4.6.0		a) UREASE ACTIVITY IN FOREST SOILS ((PC-57-359)	Spillimacheen & Vancouver Island	Can. Forestry Service PFRC - V.G. Marshall	As in title
1.4.6.0		b) TRANSFORMATION AND MOVEMENT OF N FERTILIZERS (PC-57-360)	Spillimacheen & Vancouver Island	Can. Forestry Service PFRC - P. Pang	As in title
1.4.6.0		c) HYDROLOGIC EFFECTS ON MOVEMENT OF N FERTILIZERS (PC-57-361)	Spillimacheen & Vancouver Island	Can. Forestry Service PFRC - E. Hetherington	As in title
1.4.6.0	Fd	THE EFFECT OF THINNING AND FERTILIZATION ON WOOD QUALITY	Vancouver	FORINTEK - L.A. Jozsa	To investigate the growth and density response to thinning & fertiliz. of trees in a 34-yr old D.-fir stand
1.4.6.0		FATE OF NITROGENOUS FERTILIZERS APPLIED TO SNOW (E.P. 870) cf. 1.4.6 PC-57 INCLUDES 4 STUDIES	Spillimacheen, Green Mt.	Ministry of Forests Research Br./CFS-PFRC P.Barker, V. Marshall	To determine the movement and chemical transformation of N. fertilizer on soils for winter fertilizer operations
1.4.6.0		THE EFFECT OF FERTILIZERS ON SELECTED ECOSYSTEMS IN THE CDF AND CWH BIOGEOCLIMATIC ZONES (E.P. 881) INCLUDES 4 STUDIES	Vancouver Island	Ministry of Forests Silviculture Branch - J. Otchere-Boateng	To investigate NH3 volatilization following fall and spring applications of N. fertilizers
1.4.6.0		IMPROVING EARLY GROWTH AFTER OUTPLANTING (E.P. 946) INCLUDES 6 STUDIES	Campbell River	Ministry of Forests Research Branch - R. van den Driessche	As in title
1.4.6.0	H	N. FERTILIZATION OF COASTAL WESTERN HEMLOCK (2-014)	Beaver Cove	Crown Forest Industries - F.T. Leslie	To determine growth response of spaced young stands and evaluate operational cruise techniques
1.4.6.0	Fd, H, Ba, Cw	N. FERTILIZATION OF COASTAL MIXED SPECIES (2-015)	Nanaimo, Courtenay Quadra Island	Crown Forest Industries - F.T. Leslie	To determine growth response of spaced young stands of mixed species
1.4.6.0	Cw	FERTILIZATION TRIALS - WESTERN RED CEDAR/ WESTERN HEMLOCK (512-1/513-2)	West coast Vancouver Island	MacMillan Bloedel - R.C. Bower	To determine nutritional response & growth response to urea-sulfur application & evaluate remedial use

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.4.6.0	Fd	FATE OF NITROGEN AND ITS EFFECTS ON PHOSPHORUS IN FOREST SOILS-PLANT SYSTEMS (515-1) (see also 1.10.1.0)	Vancouver Island Northwest Bay	MacMillan Bloedel - G.E. Nason	To monitor interrelation of nitrogen to P as part of a study of fertilizer needs
1.4.6.0		FERTILIZATION, SOIL EROSION CONTROL AND SITE REHABILITATION	Vancouver Island	Pacific Forest Products - L.D. Husted	To establish research projects to preserve or enhance site and forest productivity
1.4.6.0	Ss	N. FERTILIZATION OF SITKA SPRUCE/WESTERN HEMLOCK	Sandspit	Crown Forest Industries - F.T. Leslie	To determine a growth response of spaced young stands to N. fertilization
1.4.6.0		FOREST FERTILIZATION AND NUTRITION (see also 1.4.8.0)	Interior B.C.	UBC - Forestry - G. Weetman	To assist in nutrient deficiency diagnosis
1.4.6.1	Fd	MANAGEMENT OF LEGUMES IN FORESTRY: EXPERIMENTAL PLANTING TRIALS - GREEN MANURING (555-4) (see also 1.10.1.0)	Vancouver Island	MacMillan Bloedel - H.J. Kibbey	To ascertain effects of introduced legumes on a) soil fertility; b) Douglas-fir seedlings and weeds
1.4.6.1		FATE OF N AND ITS EFFECT ON P IN FOREST SOIL-PLANT SYSTEMS (Sec. 88; KV 99006)	TFL 20	Ministry of Forests Vancouver Region & MacMillan Bloedel	As in title
1.4.6.1	Dr, Fd	OPTIMUM NUMBERS OF ALDER IN Df PLANTATIONS (552.10)	Vancouver Island	MacMillan Bloedel Ltd. - R.C. Bower	a) Compare the effects on height & volume growth & nutrition of Df of the presence of Sitka alder planted
1.4.6.1	Dr, Fd	OPTIMUM NUMBERS OF ALDER IN Df PLANTATIONS (552.10)	Vancouver Island	MacMillan Bloedel Ltd. - R.C. Bower	b) at various densities and at various plantation ages in Df plantations of different stock types
1.4.6.1		MANAGEMENT OF LEGUMES IN FORESTRY: EFFECTS OF NATURALLY OCCURRING LEGUMES ON CONIFER GROWTH AND NUTRITION (555-5)	South Vancouver Island	MacMillan Bloedel - R. Bower	To ascertain effects of natural legumes on a) soil fertility; b) tree nutrition and growth

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.4.7.0		TREE DEFORMITY STUDY (Sec. 88; KV 99004)	TFL 37	Ministry of Forests Vancouver Region & Canadian Forest Products	As in title
1.4.7.0	Sw	MEASUREMENT OF PHOTOSYNTHESIS AND TRANSPIRATION OF WHITE SPRUCE PLANTED IN THE FIELD	SFU	Simon Fraser University - G. Lister	As in title
1.4.7.0	Fd, Pl	A TEST OF THE NITROGEN-PRODUCTIVITY CONCEPT OF FOREST GROWTH IN D.-FIR AND LODGEPOLE PINE		UBC - Forestry - J.P. Kimmins	As in title
1.4.7.0	Fd	TRANSPIRATION, PHOTOSYNTHESIS AND PLANT WATER POTENTIAL OF D.-FIR		UBC - Soil Science/For.	As in title
1.4.7.0	Sl	POST-PLANTING SPRUCE ECOPHYSIOLOGY (E.P. 966)		Ministry of Forests Research Branch - D. Draper et al.	a) To assess the effects of site preparation on site characteristics and seedlings
1.4.7.0	Sl	POST-PLANTING SPRUCE ECOPHYSIOLOGY (E.P. 966)		Ministry of Forests Research Branch - D. Draper et al.	c) To evaluate performance in relation to site factors for white spruce
1.4.7.0	Sl	POST-PLANTING SPRUCE ECOPHYSIOLOGY (E.P. 966)		Ministry of Forests Research Branch - D. Draper et al.	b) To evaluate effects of storage, assess the biological effect of treat-ments upon survival and growth
1.4.7.0	Fd	REHABILITATION OF MALFORMED DOUGLAS-FIR IN PLANTATIONS	Vancouver Forest Region	UBC - Forestry - K. Klinka (Sci. Council of B.C.)	To ascertain and correct the causes of distorted growth in plantations of Douglas-fir
1.4.7.0		PLANTATION TRIALS IN THE KAMLOOPS FOREST REGION (E.P. 790)	Kamloops Forest Region	Ministry of Forests Kamloops Res. Sec.	As in title
1.4.7.0	Pl	INVESTIGATION OF THE CAUSES OF STAGNATION IN LODGEPOLE PINE STANDS (E.P. 850)	Victoria	Ministry of Forests Research Branch - K. J. Mitchell	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.4.7.0	Pl	INVESTIGATION OF TOPOPHYSIS IN THE REPRESSION OF LODGEPOLE PINE (E.P. 932)	Prince George	Ministry of Forests Research Branch - D. Draper	To evaluate the importance of the apical meristem in influencing height growth response to spacing
1.4.7.0		FALL ROOT PHENOLOGY (315.1) (see also 1.3.3.4)	East Vancovuer Island	MacMillan Bloedel - B.G. Dunsworth	To quantify fall root activity and correlate with soil moisture & temp. and det. optimal time for fall plant
1.4.7.0	Pl	ECOPHYSIOLOGICAL BASIS FOR GROWTH REPRESSSION IN LODGEPOLE PINE	Vancouver	UBC - Forestry - J.L. Crane	To elucidate plant and environmental factors responsible for growth suppression
1.4.7.0	Se, Sw	ENVIRONMENTAL PHYSIOLOGY OF INTERIOR SPRUCE FOLLOWING SEVERAL SITE PREPARATION TREATMENTS	Vancouver	UBC - Forestry - J.L. Crane	To determine how site preparation affects phsiological processes in planted spruce
1.4.7.0	Fd	EFFECT OF OVERSTORY REMOVAL ON PHYSIOLOGICAL CONDITION AND GROWTH RESPONSE OF ADVANCE REGENERATION OF INTERIOR DOUGLAS-FIR	Vancouver	UBC - Forestry - J.L. Crane	To determine some of the physiological responses of interior D.-fir advance regeneration to shelterwood release
1.4.7.0	Lw	ASPECTS OF THE PHOTOSYNTHETIC PHYSIOLOGY OF SELECTED Larix spp.	Vancouver	UBC - Forestry - J.L. Crane	Not specified
1.4.8.0		DEVELOPMENT AND APPLICATION OF TECHNIQUES FOR THE DIAGNOSIS OF FOREST STAND NUTRIENT STATUS (E.P. 889)	Vancouver Island	Ministry of Forests Research Branch - T.M. Ballard	As in title
1.4.8.0		FOREST NITROGEN AND NUTRITION PROBLEMS (see also 1.4.6.0)		UBC - Forestry - G.F. Weetman	As in title
1.4.8.0	Pl	RELATIONSHIP BETWEEN STAND FOLIAR NITROGEN AND STAND PRODUCTIVITY OF LODGEPOLE PINE	South eastern B.C. (Cranbrook-Invermere)	UBC - Forestry - J.P. Kimmins (P. Comeau)	To test the driving function of the computer simulation model FORCYTE
1.4.8.0	Sw	EFFECTS OF BURNING AND MECHANICAL SITE PREPARATION ON NUTRITION OF PLANTED WHITE SPRUCE (see also 1.3.1.0)	Central Interior B.C.	UBC - Soil Science/For. - T.M. Ballard	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.4.8.0	Fd	RELATIONSHIP BETWEEN STAND FOLIAR NITROGEN AND STAND PRODUCTIVITY OF COASTAL DOUGLAS-FIR	Vancouver Island	UBC - Forestry - J.P. Kimmins (W. Kurz)	To test the driving function of the computer simulation model FORCYTE
1.4.8.0	Pl	MICRONUTRIENT NUTRITION OF CONIFERS	B.C.	UBC - Soil Science/For. - T.M. Ballard	To determine critical foliar levels of micronutrients for deficiency studies
1.4.8.0	Sw	NUTRITION OF PLANTED WHITE SPRUCE	Central Interior B.C.	UBC - Soil Science/For. - T.M. Ballard	To relate nutrient deficiencies to soil site treatment and planting stock
1.4.8.0	H	COMPARISON OF HEMLOCK NUTRITION ON VARIOUS MEDIA	Central Interior B.C.	UBC - Soil Science/For. - T.M. Ballard	To compare nutrition of western hemlock on mineral soil, humus and rotting wood
1.4.8.0	H	N and P RELATIONSHIPS IN SLOWLY-GROWING WESTERN HEMLOCK	Northern Vancouver Island	UBC - Soil Science/For. - T.M. Ballard	To examine P x N interactions in slow growth of hemlock
1.4.8.1	Fd	PREDICTION OF NUTRIENT STATUS IN DOUGLAS-FIR BY FOLIAR ANALYSIS (E.P. 643)	Victoria	Ministry of Forests Research Branch - R. van den Driessche	Diagnosis of mineral nutritive status by foliar analyses
1.4.8.1		FOLIAR ANALYSIS STUDIES IN THE PRINCE RUPERT FOREST REGION (E.P. 957)	Prince Rupert	Ministry of Forests Research Branch - Trowbridge, Yole	As in title
1.4.8.1		FOLIAR ANALYSIS OF CONIFERS	Vancouver Forest Region	UBC - Soil Science - T.M. Ballard	To determine regional distribution of nutrient deficiencies diagnosed by foliar analyses
1.5.1.0	Fd	CORRELATED CURVE TREND STUDIES IN COASTAL DOUGLAS-FIR (E.P. 418, 469, 554) SEE ALSO 1.4.0.0		Ministry of Forests Research Branch - S.A.Y. Omule	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.5.1.0	PI	DEVELOPMENT AND APPLICATION OF THE LODGEPOLE GROWTH MODEL (TASS-PI) (E.P. 850)		Ministry of Forests Research Branch - Goudie, Mitchell	As in title
1.5.2.0		REMOTE SENSING FOR MONITORING VEGETATION DAMAGE TO FORESTS	Vancouver	UBC - Forestry - P.A. Murtha	As in title
1.5.2.0		ASSESSMENT OF LANDSAT-D THEMATIC MAPPER DATA AND INTEGRATED MICROWAVE IMAGE DATA FOR WETLAND MAPPING AND MONITORING	Fraser River Est., Kamloops, Columbia River Floodplain	B.C. Research - G. Tomlins	a)Evaluate the role of Thematic Mapper Data for mapping & monitoring coastal, riverine & interior wetlands
1.5.2.0		ASSESSMENT OF LANDSAT-D THEMATIC MAPPER DATA AND INTEGRATED MICROWAVE IMAGE DATA FOR WETLAND MAPPING AND MONITORING	Fraser River Est., Kamloops, Columbia River Floodplain	B.C. Research - G. Tomlins	b) Multi-data analyses. Assess proposed RADARSAT satellite to detect standing water beneath a plant canopy
1.5.2.0		DEVELOPMENT OF REMOTELY PILOTED AIRCRAFT FOR LOW ALTITUDE ENVIRONMENTAL STUDIES	Vancouver (testing throughout B.C.)	B.C. Research - G. Tomlins	a) For acquiring inexpensive aerial photography or other airborne data (e.g aerosol sampling, air-pollution)
1.5.2.0		DEVELOPMENT OF REMOTELY PILOTED AIRCRAFT FOR LOW ALTITUDE ENVIRONMENTAL STUDIES	Vancouver (testing throughout B.C.)	B.C. Research - G. Tomlins	b) Transfer the technology to industry with the objective of commercial production and use of these systems
1.5.2.0		LASER MAPPING - TESTING OF ACCURACY OF CONTOUR MAPPING AND DETERMINATION OF TREE HEIGHTS USING LASER MAPPING TECHNIQUES	Province-wide	FERIC - M. Nagy	As in title
1.5.2.0		AN OPERATIONAL TEST TO EVALUATE CIR AIR PHOTOS FOR MOUNTAIN PINE BEETLE ATTACK ASSESSMENT	UBC	UBC - Forestry - P.A. Murtha	As in title
1.5.2.0		EVALUATION OF MEIS-II SCANNER IMAGERY FOR BARK BEETLE AND VEGETATION DAMAGE DETECTION	UBC	UBC - Forestry - P.A. Murtha	As in title
1.5.2.0		SATELLITE REMOTE SENSING OF KNAPWEED INFESTED RANGE LAND (see also 2.2.3.0)		B.C. Research/Ministry of Forests, Range Br. - G. Tomlins	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.5.2.0		DIGITAL IMAGING FOR FORESTRY (PC-64)	B.C. & Yukon	Can. Forestry Service PFRC - F.G. Peet	To apply digital image processing techniques to forestry problems
1.5.2.0		a) DIGITAL IMAGE ANALYSIS DEVELOPMENT (PC-64-397)	B.C. & Yukon	Can. Forestry Service PFRC - F.G. Peet	As in title
1.5.2.0		b) DIGITAL IMAGE ANALYSIS RESEARCH FOR FORESTRY PROBLEMS (PC-64-400)	B.C. & Yukon	Can. Forestry Service PFRC - F.G. Peet	As in title
1.5.2.0		RESEARCH DEVELOPMENT AND APPLICATION OF IMAGE PROCESSING TECHNIQUES TO FORESTRY PROBLEMS (PC-64) (see also 1.4.5.3 and 1.4.5.4)	B.C. & Yukon	Can. Forestry Service: PFRC - F.G. Peet	As in title
1.5.2.0		PHOTO INTERPRETATION OF EXTRA VISUAL DETECTION OF DAMAGE	Vancouver	UBC - Forestry - P.A. Murtha	To analyze color i.R. air photos for pre-visual damage detection
1.5.2.0		PRECISION RECTIFICATION OF SATELLITE IMAGERY USING DIGITAL TERRAIN MODELS	Vancouver	UBC - Forestry - R.J. Woodham	To develop automatic techniques to account for image distortions and variations
1.5.2.0		AUTOMATIC VERIFICATION OF FOREST COVER MAPS USING MACHINE READABLE FOREST COVER MAPS	Vancouver	UBC - Forestry - R.J. Woodham	To combine Landsat and computer maps so as to predict needs for revision
1.5.2.0		EXACT REPRODUCTION AND ENHANCEMENT OF COLOUR IMAGES	Vancouver	UBC - Forestry - R.J. Woodham	To calibrate computer based image systems for exact reproduction
1.5.2.0		IMAGE ANALYSIS USING DIGITAL TERRAIN MODELS	Vancouver	UBC - Forestry - R.J. Woodham	To improve interpretation of ground cover by correcting for induced changes of brightness
1.5.3.0		BIOMASS PRODUCTIVITY AND WOOD QUALITY OF WHITE SPRUCE	Vancouver	FORINTEK - L.A. Jozsa	To prepare a final report on biomass productivity and wood quality of white spruce

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.5.3.0		CLIMATIC RECONSTRUCTION FROM TREE RINGS	Vancouver	FORINTEK - L.A. Jozsa	To reconstruct climatic data from 600 yr old D.-fir trees & instr. climate records from 1887-1983 at Banff, Alta
1.6.0.0		MACHINE EVALUATIONS - EXAMINATION OF SPECIFIC EQUIPMENT IN USE	Province-wide	FERIC - B.A. McMorland	As in title
1.6.0.0		IMPROVED SAW CHAINS FOR MECHANICAL FELLERS	Langley	Windsor Machine Ltd. - G. Porritt (Sci. Council of B.C.)	As in title
1.6.0.0		EFFECTS OF HARVESTING AND SITE PREPARATION ON FOREST RESOURCES AND VALUES (PC-25)	Province-wide	Can. Forestry Service PFRC - R. Smith	To assess the impacts of management practices on site values, and improve these practices as appropriate
1.6.0.0		a) EFFECTS OF FORESTRY PRACTICES ON SENSITIVE SITES (PC-25-253)	Province-wide	Can. Forestry Service PFRC - R. Smith	As in title
1.6.0.0		b) LANDSLIDES, Q.C.I. (PC-25-390)	Queen Charlotte Islands	Can. Forestry Service PFRC - R. Smith	As in title
1.6.0.0		CHAINSAW CHAIN	Vancouver	FERIC - D.C. Moulson	To improve the cutting characteristics and reduce the power requirements of mechanical felling heads
1.6.0.0		REDUCTION OF FELLING BUTT DAMAGE	Vancouver	FERIC - J. Ewart	To develop and test devices to minimize losses due to butt damage
1.6.0.0		SILVICULTURAL SYSTEMS (see also 4.2.0.0)	Queen Charlotte Islands	Poulin & Associates, Vancouver	Addressing the effect of logging on unstable slopes
1.6.0.0		NOISE AND VIBRATION REDUCTION ON CHAIN SAW CUTTING ATTACHMENT	Vancouver	Windsor Machine Ltd. - (Lim)/ (Sci. Council of B.C.)	To quieten chain saws and to reduce vibration

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.6.1.1		LIMBING AND BUCKING - SURVEY OF USE OF LIMBING AND BUCKING EQUIPMENT IN B.C., EVALUATION OF EFFECTIVENESS WITH HARVESTING SYSTEMS	Province-wide	FERIC - B.A. McMorland	As in title
1.6.1.3	Fd	EXPLORATORY STUDY OF LOGGING AND ATV DAMAGE IN DRY BELT DOUGLAS-FIR (E.P. 829)	Kamloops	Ministry of Forests Kamloops Res. Branch	As in title
1.6.1.3		TO COMPARE EROSION RATES ON LOGGED AND UNLOGGED SLOPES	British Columbia	UBC - Forestry - D.L. Golding	As in title
1.6.1.3		APPLICATION OF THE "WRENSS" MODEL TO EROSION RATES IN LOGGE AREAS OF THE OKANAGAN	Okanagan	UBC - Forestry - D.L. Golding	As in title
1.6.1.3		EFFECTS OF CLEARCUTTING AND SLASHBURNING ON NUTRIENT MOVEMENT THROUGH FORESTED WATERSHEDS		UBC - Forestry - M.C. Feller	As in title
1.6.1.3	Pl, Se	STUDY OF THE PATTERNS OF NITROGEN MOBILIZATION ON INTERIOR OF B.C. CUTOVERS (see also 1.10.1.0)	Clearwater, Okanagan Falls	UBC - Forestry - G.F. Weetman (C. David, C. Haskin)	Determine the magnitude and duration of the "ASSART" effect on interior B.C. cutovers
1.6.1.3		DENITRIFICATION POTENTIAL IN FOREST FLOORS FOLLOWING CLEARCUTTING	Vancouver Island	UBC - Forestry - J.P. Kimmins (W. Martin)	To quantify the denitrification potential of non-slashburned forest floors
1.6.1.3		FATE OF NITROGEN RELEASED FROM FOREST FLOOR AFTER CLEARCUTTING	Vancouver Island	UBC - Forestry - J.P. Kimmins (W. Martin)	a) To document the loss of forest floor biomass after clearcutting
1.6.1.3		FATE OF NITROGEN RELEASED FROM FOREST FLOOR AFTER CLEARCUTTING	Vancouver Island	UBC - Forestry - J.P. Kimmins (W. Martin)	b) To document the fate of nitrogen released from this forest floor
1.6.1.3		CARNATION CREEK EXPERIMENTAL WATERSHED PROJECT	Carnation Creek	Fish. & Oceans/CFS:PFRC - G. Hartman/R.B. Smith	Effects of forestry practices on fish habitat; changes in hydrology; soil erosion and forest growth

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.6.1.4		IDENTIFICATION OF LOGGING WASTE IN THE VANCOUVER FOREST REGION (Enfor P-296)	Vancouver Region	Nawitka Renewable Resources	To identify logging waste a) by spp., b) by extraction c) by tree segment d) by seasonal or topographic variat.
1.6.2.0		TWO AGED STAND MANAGEMENT FOR SAWLOG PRODUCTION		UBC - Forestry - P.W. Sanders	As in title
1.6.2.1		REGULATION OF PARTIALLY-CUT STANDS	Vancouver	UBC - Forestry - J.H.G. Smith	By case studies of past cutting to improve regulation and control of partial cutting
1.6.2.2		EFFECT OF PARTIAL LOGGING ON NATURAL REGENERATION	Kamloops	UBC - Soil Science/For. - T.A. Black	To ascertain how different intensities of partial logging effect micro-meteorology & natural regen.
1.6.3.2	Fd	EFFECT OF PARTIAL LOGGING ON MICRO-CLIMATE AND GROWTH OF INTERIOR D.-FIR STANDS		UBC - Soil Science - T.A. Black	As in title
1.7.0.0		QUEEN CHARLOTTE ISLANDS STUDY	Queen Charlotte Islands	FERIC - E.A. Sauder	A study of ways to reduce the mass wasting from logging
1.7.0.0		YARDING STUDIES	Vancouver	FERIC - E.A. Sauder	To improve the efficiency of yarding
1.7.0.0		ALTERNATE YARDING SYSTEMS (see also 4.2.0.0)	Queen Charlotte Islands	Poulin & Associates	Addressing the effect of logging on unstable slopes
1.7.1.0		THINNING COASTAL STANDS WITH CABLE SYSTEMS	UBC	UBC - Forestry - G.G. Young	As in title
1.7.1.0	Sw	BIOLOGICAL STRESS IN WHITE SPRUCE REFORESTATION (E.P. 971) 4 STUDIES	Prince George, Kenneth Creek	Ministry of Forests Pr. George Res. Sec. - D. Draper, L. Herring	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.7.1.0		LOW GROUND-PRESSURE TIRES FOR SKIDDING ON THE WEST COAST	Vancouver Island	MacMillan Bloedel Ltd. Wood Harvesting Res. (B.Sauder)/DSS/CFS/MoF	Test wheeled skidders equipped with wide tires, under varying soil and slope conditions
1.7.1.0		SAFETY DEVICES FOR FORESTRY OPERATIONS	Vancouver Island	MacMillan Bloedel Ltd. Wood Harvesting Res. - P.L. Cottell	Improve equipment for (1) eye protection; (2) dispensing herbicides; (3) carrying saw fuel
1.7.1.0		VIDEO CAMERA FOR IMPROVED GRAPPLE YARDING	Vancouver	MacMillan Bloedel Wood Harvesting Research - P.L. Cottell	Develop vidao transmitter system for effective grapple yarding in rough terrain
1.7.1.0		CARNATION CREEK EXPERIMENTAL WATERSHED PROJECT (see also 1.6.1.3)	Carnation Creek	Fish. & Oceans/CFS:PFRC - G. Hartman/R.B. Smith	Effects of forestry practices on fish habitat; changes in hydrology; soil erosion and forest growth
1.7.2.0		SITE DISTURBANCE CAUSED BY LOW GROUND PRESSURE SKIDDERS (Sec. 88)	Vancouver Region	MacMillan Bloedel - B.J. Sauder & T.P. Rollerson	Determine the degree & extent of soil compaction resulting from the use of an LGP rubber-tired skidder
1.7.2.0		SOIL COMPACTION EFFECTS OF LOW GROUND PRESSURE SKIDDER (120.3)	Vancouver Island	MacMillan Bloedel Ltd. - T.P. Rollerson	To determine the degree and extent of soil compaction resulting from the rise of a rubber-tired skidder
1.7.2.0	PI	LODGEPOLE PINE DISTRIBUTION WITH RELATION TO LOGGING BY FELLER-BUNCHER/GRAPPLE-SKIDDER LOGGING (E.P. 820) See also entry 1.3.2.1	Kamloops Region	Ministry of Forests Kamloops Res. Sec.	To determine natural regeneration success following feller/buncher/ grapple skidder logging
1.7.3.0		RECOVERY OF BIOMASS IN MOUNTAINOUS TERRAIN	Province-wide	FERIC (Enfor) - A.W.J. Sinclair	As in title
1.8.0.0		MACHINE EVALUATIONS - EXAMINATION OF SPECIFIC EQUIPMENT IN USE	Province-wide	FERIC - B.A. McMorland	As in title
1.8.1.0		BUNK SCALES - DEVELOPMENT AND TESTING OF IMPROVED BUNK SCALES	Province-wide	FERIC - D.G. Smith	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.8.1.0		SPECIAL CARRIERS - EXAMINATION OF VARIOUS SPECIAL CARRIERS FOR LOGGING OPERATIONS, E.G. WIDE TIRES	Province-wide	FERIC - B.A. McMorland	As in title
1.8.1.0		ROCKWORK - DRILLING AND BLASTING DEVELOPMENT OF A HANDBOOK FOR USE IN ROAD CONSTRUCTION IN THE FOREST INDUSTRY	Vancouver	FERIC - R. Krag	As in title
1.8.1.0		ROAD CONSTRUCTION - BALLAST AND SURFACE MATERIALS	Vancouver	FERIC - M. Nagy	To identify and evaluate the quality of materials available
1.8.1.0		LOG TRUCK STUDIES INSTRUMENTATION OF AN INTERIOR LOGGING TRUCK - IN COOPERATION WITH INDUSTRY AND TRANSPORT CANADA	Vancouver	FERIC - D.G. Smith	As in title
1.8.1.0		ROAD RECORDER MODIFICATIONS	Victoria	Ministry of Forests Engineering Branch - S. Lam	To conduct high speed road surveys
1.8.1.0		SIMULATED LOG HAUL PROGRAM	Victoria	Ministry of Forests Engineering Branch (Bonfonti)	To calculate haul times from data recorded by the road recorder and surveyers
1.8.2.0		WATER TRANSPORTATION - TESTING OF DIFFERENT CONFIGURATIONS OF BOOMING GEAR	Province-wide	FERIC - D.G. Smith	As in title
1.8.2.0		EXAMINING LOG TRANSPORTATION IMPACTS ON FISH POPULATIONS IN BABINE LAKE (see also 4.1.2.0)	Babine Lake	Westwater Research Cntr. - A.H.J. Dorcey	As in title
1.8.2.0		SUBSTITUTE BOOMSTICKS	Vancouver	FERIC - D.G. Smith	To test concrete boomsticks
1.8.2.0		SORTYARD DESIGN STUDY PUBLICATION OF HANDBOOK: ASSISTANCE IN DESIGN OF TWO NEW SORTYARDS	Vancouver	FERIC - A.W.J. Sinclair	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.8.2.0		WATER TRANSPORT OF LOGS	Vancouver	MacMillan Bloedel - P. L. Cottell	To determine least total cost log transport system, considering handling, transport and losses
1.8.3.3		CYCLO-CRANE DEVELOPMENT	Oregon	FERIC - E.A. Sauder	To develop a substitute for large helicopters for logging
1.8.3.3		AERIAL HARVESTING OF PRESENTLY INACCESSIBLE TIMBER	Vancouver Island	MacMillan Bloedel, Tahsis BCFP, Pacific F.P., Silver Grizzley	To develop aerial logging vehicle safer and cheaper than helicopter
1.9.0.0		IMPROVEMENTS IN MACHINE GRADING	Vancouver	FORINTEK - M. Samson	To develop machine grading techniques with high correlations between grade designations & lumber properties
1.9.0.0	S	DURATION OF LOAD EFFECTS IN SPRUCE LUMBER	Vancouver	FORINTEK - J.D. Barrett	Continue collection of long-term experimental bending data for 2-x-8-in. spruce dimension lumber
1.9.0.0	S	DURATION OF LOAD EFFECTS IN SPRUCE LUMBER IN TENSION	Vancouver	FORINTEK - J.D. Barrett	Initiate collection of long-term tension strength data for 2-x-4-in. spruce dimension lumber
1.9.0.0		RELIABILITY OF WOOD STRUCTURAL SYSTEMS	Vancouver	FORINTEK - E. Varoglu	To develop a reliability analysis for wood floors under service conditions
1.9.0.0		TESTING OF BIOMASS CONVERSION EQUIPMENT	Vancouver	FERIC (Enfor) - A.W.J. Sinclair	As in title
1.9.0.0		ROOF TRUSS ANALYSIS AND RELIABILITY	Vancouver	FORINTEK - E. Varoglu	To finalize a structural analysis of roofs with trusses, allowing for sheathing in roof's strength & stiff.
1.9.0.0		DURATION OF LOAD IN TIMBER FASTENERS	Vancouver	FORINTEK - L.C. Palka	To develop reliable design equations for short- and long-term behaviour of common mechanical timber connections

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.9.1.0		BRANCH SIZE AND FREQUENCY EFFECTS ON PRODUCT QUALITY: A PROBLEM ANALYSES	Vancouver	FORINTEK - R.M. Kellogg	To develop a research plan to address the most important questions on the effect of 2nd growth trees on quality
1.9.1.0		HYDRAULIC SAW - INITIAL CONCEPT TESTING OF HYDRAULIC SAW FOR LOGGING OPERATIONS	Province-wide	FERIC - D.C. Moulson	As in title
1.9.1.0		MICROWAVE ELECTRONIC GRADING OF LUMBER	Vancouver	UBC - Civil Eng. - B. Msdsen (Scl. Council of B.C.)	To test the effectiveness of microwaves in determining grain angle, and hence inferring strength, in lumber
1.9.1.0		EFFECT OF GULLET DESIGN ON SAWING ACCURACY IN RIPSAWING UNFROZEN WOOD	Vancouver	FORINTEK - E.D. Kirbach	To improve the cutting accuracy of ripsaws and to reduce surface roughness of cut unfrozen lumber
1.9.1.0		NEW TOOTH DESIGN FOR CROSS GRAIN CUTTING APPLICATIONS	Vancouver	FORINTEK - E.D. Kirbach	To develop a better tooth design for cross grain cutting applications
1.9.1.0		GUIDED SLOTTED CIRCULAR SAW	Vancouver	FORINTEK - T. Bonac	To design a water guided slotted circular saw & compare guided slotted saws with guided unslotted saws
1.9.1.0		MICROBEVELLING TOOLS	Vancouver	FORINTEK - T. Bonac	To develop tools & methods for applying microbevel to wood cutting tools
1.9.1.0		NEW TOOTH/GULLETT DESIGN TO REDUCE NOISE	Vancouver	FORINTEK - T. Bonac	To design a circular saw blade with a reduced gullet area while maintaining the performance of the blade
1.9.1.0		PROFIT EVALUATION PROGRAM	Vancouver	FORINTEK - S.J. Wang	To provide an effective and easy-to-use sawmill profit analysis computer program for Canadian sawmills
1.9.1.0		SIMPLE PROGRAMS FOR CONTROL OF VARIABILITY OF YIELD AND TARGET SIZES AT INDIVIDUAL MACHINE CENTERS	Vancouver	FORINTEK - J.R.T. Halley	To develop simple in-mill quality control procedures for lumber manufacturing

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.9.1.0		PROGRAM TO MEASURE AND EVALUATE SAWMILL EFFICIENCY	Vancouver	FORINTEK - J.R.T. Halley	To develop a manual outlining procedures for measuring and evaluating sawmill efficiency
1.9.1.0		FIELD EVALUATION OF INDUSTRIAL DRYING	Vancouver	FORINTEK - J.F.G. Mackay	To evaluate the drying performance of some industrial kilns & identify areas for improved drying practices
1.9.1.0		PRODUCT OUTTURN STUDIES FOR B.C. INTERIOR TREE SPECIES	Vancouver	FORINTEK - G.R. Middleton	To provide more accurate estimates of the value of commercial tree species by sawmill and planer studies
1.9.1.0	H, Fd	IMPROVED TECHNOLOGY FOR HEM-FIR DRYING	Vancouver	FORINTEK - J.F.G. Mackay	To develop and demonstrate economically attractive drying procedures for hem-fir lumber
1.9.1.0		THE COST EFFECTIVENESS OF SELECTED SAWMILL TECHNICAL IMPROVEMENTS	Vancouver	FORINTEK - R.W. Nielson	To evaluate the profitability of making specific changes or improvements to the sawmilling process
1.9.1.0		EVALUATION OF ADVANCED KILN CONTROL SYSTEMS	Vancouver	FORINTEK - J.F.G. Mackay	To review developments in kiln control processes and assess their applicability to W. Can. drying ops.
1.9.1.0	H	EFFECTS ON PRODUCT OUTTURN OF HEMLOCK DWARF MISTLETOE INFECTIONS	Vancouver	FORINTEK - G.R. Middleton	To relate severity of Arceuthobium-caused stem swellings to log grade yields & lumber outturn values
1.9.1.0		CALIBRATION OF IN-KILN MOISTURE METERS	Vancouver	FORINTEK - J.F.G. Mackay	To develop and test a procedure for species and/or temperature calibrations of in-kiln moisture meters
1.9.1.0		EVALUATION, MAINTENANCE AND DEVELOPMENT OF MICROCOMPUTER SOFTWARE FOR SAWMILL APPLICATIONS	Vancouver	FORINTEK - S.J. Wang	To develop and apply easy-to-use microcomputer programs for analyzing sawmill efficiency
1.9.1.0		MAXIMIZING LUMBER RECOVERY AT THE CHIP-N-SAW	Vancouver	FORINTEK - S.J. Wang	To establish & improve on the lumber recoveries of B.C. Chip-N-Saw sawmills at four technological levels

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.9.1.0		STRENGTH AND STIFFNESS OF CANADIAN SOFTWOOD LUMBER (ANALYSIS OF IN-GRADE LUMBER PROPERTY DATA)	Vancouver	FORINTEK - J.D. Barrett	To undertake analysis of strength stiffness & related data developed from in-grade tests
1.9.1.0		EFFECT OF SPAN-DEPTH RATIO ON THE APPARENT STIFFNESS OF DIMENSION LUMBER	Vancouver	FORINTEK - J.D. Barrett	To provide procedures for adjusting in-grade bending stiffness data for span-to-depth ratio/loading condition
1.9.1.0		REDUCED USE OF CHLORINATED PHENOLS FOR SAPSTAIN, MOULD AND DECAY PREVENTION	Vancouver	FORINTEK - A.J. Cserjesi	To evaluate the optimum ratio of fungicide and wax in a commercial chlorinated phenol-wax antistain
1.9.1.0		DEVELOPMENTS OF METHODS FOR COMMERCIAL SORTING OF IMPORTANT CANADIAN WOODS	Vancouver	FORINTEK -E.P. Swan	To develop rapid chemical color tests for the separation of several species groups under mill conditions
1.9.1.0		TECHNIQUES FOR ELIMINATING ENVIRONMENTAL IMPACTS ASSOCIATED WITH THE RAINWATER LEACHING OF CHLORINATED PHENOLS FROM TREATED LUMBER	Vancouver	FORINTEK - E.P. Swan	To assess present chemical techniques or treatments for degrading chlorinated phenols in mill yard drainage
1.9.1.0		INCREASING NUMBER OF REGRINDS OF TIPPED SAWS	Vancouver	FORINTEK - T. Bonac	To modify tooth sharpening procedures so that the possible number of regrinds is increased
1.9.1.0	H, Fd	IDENTIFICATION OF DECAY IN HEM-FIR LUMBER	Vancouver	FORINTEK - E.P. Swan	To develop an improved method of identifying decay in hem-fir lumber under mill sorting conditions
1.9.1.0	H, Fd	DETECTION OF COMPRESSION WOOD IN WESTERN HEMLOCK USING ULTRASONIC TESTING METHODS	Vancouver	FORINTEK - E.A. Hamm	To evaluate the ultrasonic method of detecting compression wood in hem-fir dimension lumber
1.9.1.0		DEVELOPMENT OF ANALYTICAL CAPABILITIES FOR TWO PROSPECTIVE ANTISTAIN COMPOUNDS	Vancouver	FORINTEK - E.P. Swan	To examine the applicability of available analyses for the newer antistain compounds on surface treated lumber
1.9.1.0		SIDE GRINDING OF STANDARD STEEL SAWS	Vancouver	FORINTEK - E.D. Kirbach	To evaluate the improvement in dimensional accuracy and yield of lumber cut by side grinding stand. band saws

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.9.1.0		EVALUATION OF PLANO-MATIC BAND SAW SYSTEM	Vancouver	FORINTEK - T. Bonac	To test the PLANO-MATIC system in a "high-strain" bandmill arrangement
1.9.1.0		SELF-SHARPENING CUTTING EDGES	Vancouver	FORINTEK - E.D. Kirbach	To extend the sharpness of saw teeth and waterizing knives by controlling the wear rate of the parent material
1.9.1.0		BANDSAW PRESSURE GUIDE ANALYSIS	Vancouver	FORINTEK - T. Bonac	a) evaluate influence of guide wear on life and sawing accuracy of bandsaw blades
1.9.1.0		BANDSAW PRESSURE GUIDE ANALYSIS	Vancouver	FORINTEK - T. Bonac	b) To establish improved maintanance procedures
1.9.1.0		MILL FLOW DESIGN PROGRAM	Vancouver	FORINTEK - S.J. Wang	To refine the Mill Flow Design Program and validate the program through mill tests
1.9.1.0		DEVELOPMENT OF MORE EFFICIENT WOOD CUTTING PROCEDURES	Vancouver	UBC - Mechanical Eng. - S. G. Hutton	To improve cutting efficiency in band saws and circular saws
1.9.1.0		TO ESTABLISH REALISTIC STRENGTH PROPERTIES FOR LUMBER AND TIMBER: ALLOWING FOR VARIATIONS IN DURATION OF STRESS, MOISTURE CONTENT, GRADING	Vancouver	UBC - Civil Eng. - B. Madsen	Also in-grade testing
1.9.1.0		MICROWAVE ELECTRONIC GRADING OF LUMBER	Vancouver	UBC - Civil & El. Eng. - M. Kharadly, B. Madsen	To test microwaves for detecting the slope of grain in lumber
1.9.1.0		LOG SCALING BY COMPUTER IMAGE PROCESSING	Vancouver	UBC - Elec. Eng. - (Lawrence)/ (Sci. Council of B.C.)	To develop a microprocessor image analyses for rapid log volume determination
1.9.1.0		DEVELOPMENT OF CIRCULAR SAW THERMAL TENSIONING GUIDES	Vancouver	Mitten & Associates - (Brdicko)/ (Sci. Council of B.C.)	To improve cutting accuracy of circular saws to improv utilization efficiency

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.9.1.0		ROCK DETECTION IN LOGS	Vancouver	MacMillan Bloedel Res. - (Aune)/ (Sci. Council of B.C.)	To develop x-ray absorption and fluorescent detection of rocks prior to sawing
1.9.1.0		DETECTION AND CONTROL OF SAWING VARIATION WITH BANDSAWS	Vancouver	MacMillan Bloedel Res. - (Lau)/ (Sci. Council of B.C.)	To improve bandsawing efficiency through microprocessor control
1.9.1.0		THE CONTROL OF SAP STAIN IN GREEN LUMBER	Vancouver	MacMillan Bloedel Res. - (Martin)/ (Sci. Council of B.C.)	To find an effective chemical control to protect lumber during overseas shipment
1.9.2.0		IMPROVED QUALITY CONTROL PROCEDURES FOR PLYWOOD MANUFACTURE	Vanccuver	FORINTEK - M.R. Clarke	To develop improved quality control procedures in all sequences of the plywood manufacturing process
1.9.2.0		IMPROVEMENTS IN PLYWOOD PROCESSING	Vancouver	FORINTEK - G.E. Troughton	To increase yield and produce high plywood bond quality through sorting and drying green veneer
1.9.2.0		SPINDLELESS VENEER LATHE	Vancouver	FORINTEK - D.C. Walser	To investigate parameters affecting peel quality on a spindleless lathe
1.9.2.1		IMPROVING BONDING LATITUDES OF PLYWOOD ADHESIVES	Vancouver	FORINTEK - P.R. Steiner	To modify or develop improved adhesives to bond veneers of both higher moisture content/varying properties
1.9.2.1		DEVELOPMENT OF SUGAR ADHESIVE SYSTEMS FOR WOOD GLUING	UBC	UBC - Forestry - L. Paszner	As in title
1.9.2.1		NON-CONVENTIONAL BONDING OF WOOD	UBC	UBC - Forestry - L. Paszner	a) Development of wood bonding processes based on mag-oxyphosphates
1.9.2.1		NON-CONVENTIONAL BONDING OF WOOD	UBC	UBC - Forestry - L. Paszner	b) Adhesive applications of natural lignins in isocyanate and phenol formaldehyde resins
1.9.3.0		CHLORINATED ORGANICS IN CHLORINATION-STAGE EFFLUENTS FROM CANADIAN PULP MILLS	Vancouver	B.C. Research - B. McKague	To ascertain the content of chlorin. organics and identify those that are toxic in pulp mill bleaching effluent

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.9.3.0	Cw	VALUE ADDED PRODUCTS FROM ALKALINE SULFITE PULPING OF CEDAR	Vancouver	MacMillan Bloedel Res. - J.K. Turnbull (Sci. Council of B.C.)	To develop an operational procedure for producing acceptable chemical pulp from western red cedar
1.9.3.0		SYNTHESIS OF CHEMICAL STANDARDS FOR PULP AND PAPER RESEARCH	Vancouver	B.C. Research - B. McKague	To prepare pure samples of wood extractives, chlorinated phenols and other organic compounds
1.9.3.0		IDENTIFICATION OF MUTAGENIC SUBSTANCES IN BIO-TREATED WHOLE MILL EFFLUENT FROM BLEACHED KRAFT PULP AND PAPER MILLS IN B.C.	Vancouver	B.C. Research - B. McKague	To isolate and identify mutagenic compounds in bio-treated whole mill effluent or chlorination-stage effluent
1.9.3.0		CULTIVATION OF OYSTERMUSHROOMS (Pleurotus sajor-caju) ON PULP MILL SLUDGES	Vancouver	B.C. Research - J.C. Mueller	To produce nutritious oyster & Shaggy Mane mushrooms using fibrous sludges from thermo-mechanical kraft pulp
1.9.3.0		CULTIVATION OF "SHAGGY MANE" (Coprinus comatus) ON KRAFT PULP MILL SLUDGE	Vancouver	B.C. Research - J.C. Mueller	To utilize pulp mill wastes as substrate for food production
1.9.3.0		USE OF THERMO-MECHANICAL PULP MILL SLUDGE AS CASING MATERIAL (substitute for peat) FOR CULTIVATION OF CHAMPIGNON (Agaricus bi-sporus)	Vancouver	B.C. Research - J.C. Mueller	To utilize the spent mushroom substrate as humus in horticulture and agriculture
1.9.3.0		MANUFACTURE OF NAPHTHOQUINONE, TETRAHYDROANTHRAQUINONE AND ANTHRAQUINONE	Vancouver	B.C. Research - K. Oehr	To develop improved technology for the manufacture of THAQ and anthraquinone wood pulping additives
1.9.3.0		DEVELOPMENT OF NOVEL COLOUR REMOVAL PROCESS FOR KRAFT MILL EFFLUENTS	Vancouver	Techwest/B.C. Research - G. Esplin	As in title
1.9.3.0		ADVANCED CONTROL OF PULP AND PAPER PRODUCTION UNITS	Vancouver	PPRIC (c/o Electrical Engineering U.B.C. - G.A. Dumont	To increase efficiency of pulp and paper processes by better control
1.9.3.0		REFINER MECHANICAL PULPS FROM CANADIAN FIBRE SOURCES	Vancouver	PPRIC (c/o FORINTEK) - J.V. Hatton	To determine the effects of different species and processes on yield and properties of mechanical pulp
1.9.3.0		INCREASED HARDWOOD USAGE IN CHEMICAL PULPING	Vancouver	PPRIC (c/o FORINTEK) - K. Hunt, J.V. Hatton	To increase hardwood usage and expand the fibre resource base

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.9.3.0		UTILIZATION OF DEAD WOOD IN PULPING	Vancouver	PPRIC (c/o FORINTEK) - J.V. Hatton, K. Hunt	To determine fibre losses, to develop field assessment of damage and to improve utilization of S-D wood
1.9.3.0		FLUID MECHANICS OF FIBRE SUPSPENSIONS: MEASUREMENT OF FIBRE FLEXIBILITY, PULP FLOCCULATION IN TURBULENT FLOW, MIXING IN PULP SUSPENSIONS	Vancouver	PPRIC (c/o Chem. Eng.-UBC) - R.J. Kerekes	To improve knowledge of and, hence, efficiency in pulp technology PULP SCREENING
1.9.3.0		INCREASING CHEMICAL RECOVERY CAPACITY FOR KRAFT MILL	Prince George	PPRIC - V. Uloth, M.D. Ouchi,	To determine the potential of additives as tall oil phase separation aids
1.9.3.0		IMPROVED REFINER PLATE DESIGN TO REDUCE ENERGY AND IMPROVE LOADABILITY IN ROTATING DISC WOOD REFINERS (TMP)	Vancouver	MacMillan Bloedel Res. - (Leith)/ (Sci. Council of B.C.)	To reduce energy requirements in thermomechanical pulping
1.9.3.0	Cw	CEDAR MECHANICAL PULP IN NEWSPRINT	Vancouver	MacMillan Bloedel Res. - (Mackie)/ (Sci. Council of B.C.)	To develop a practical brightening process for cedar pulp
1.9.3.0		ELECTROSYNTHESIS OF ALKALINE PEROXIDE SOLUTION	UBC	UBC - Chem. Eng. - C. Oloman	Objectives not given - see titles
1.9.3.0		ELECTROSYNTHESIS OF SODIUM HYDROSULPHITE	UBC	UBC - Chem. Eng. - C. Oloman	Objectives not given - see titles
1.9.3.0		ELECTROLYTIC REMOVAL OF SODIUM CHLORIDE FROM BLACK LIQUOR	UBC	UBC - Chem. Eng. - C. Oloman	Objectives not given - see titles
1.9.3.0		PLATE POSITION CONTROL OF TMP REFINER TO FACILITATE AUTOMATIC COMPENSATION FOR ANOMALIES	UBC	UBC - Elec. Eng. - M. Davies	To apply a self-tuning control algorithm to the control of plate position
1.9.3.0		ENERGY USAGE IN PULP AND PAPER MILLS	UBC	UBC - Elec. Eng. - M. Davies	To establish optimum generating strategies for any given mill demand

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.9.3.0		PULP AND PAPER ENGINEERING	UBC	UBC - Chemical Eng. - K.L. Pinder	As in title
1.9.3.0		PULP AND PAPER RESEARCH	UBC	UBC - Chemical Eng. - J.R. Grace	As in title
1.9.3.0		ADVANCED CONTROL AND MODELLING OF PULP AND PAPER CONTROL UNITS	UBC	UBC - Elec. Eng. - G. Dumont	As in title
1.9.3.0		PREHEATING WOOD CHIPS BY SIMULATED KRAFT RECOVERY FLUE GASES	UBC	UBC - Chemical Eng. - A.P. Watkinson	As in title
1.9.4.0		ENGINEERING PROPERTIES FOR CANADIAN WAFERBOARD	Vancouver	FORINTEK - J.D. Barrett	To initiate structural evaluation of Canadian waferboard
1.9.4.0		LONG-TERM STRENGTH AND CREEP OF COMMERCIAL WAFERBOARD	Vancouver	FORINTEK - J.D. Barrett	To initiate creep & creep-rupture tests on commercial waferboard and plywood controls
1.9.4.0		IMPROVING VENEER QUALITY BY AUTOMATIC THICKNESS CONTROL AND REDUCING KNIFE DULLING	Vancouver	FORINTEK - D.C. Walser	a) To evaluate the Forintek automated knife pitch-control system for veneer peeling
1.9.4.0		IMPROVING VENEER QUALITY BY AUTOMATIC THICKNESS CONTROL AND REDUCING KNIFE DULLING	Vancouver	FORINTEK - D.C. Walser	b) To reduce veneer knife dulling by brush plating their cutting edge with suitable coatings
1.9.6.0		CHEMICALS FROM FOREST PRODUCTS BY SUPERCRITICAL FLUID EXTRACTION	Vancouver	B.C. Research - J. Howard J. Jezko	To determine the composition and potential utility of oils obtained by supercritical fluid extraction of wood
1.9.6.0		NEW CELLULOSE BASED POLYMERS FOR INDUSTRIAL APPLICATIONS	Vancouver	B.C. Research - M. Yalpani	To increase the industrial uses of wood cellulose through preparation of novel, branched polysaccharide deriv.

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.9.6.0		WOOD CHEMISTRY: CHEMICALS FROM WOOD	Vancouver	UBC - Forestry - L. Paszner	a) To develop a catalyzed organosolv extraction alternative to sulphur pulping
1.9.6.0		WOOD CHEMISTRY: CHEMICALS FROM WOOD	Vancouver	UBC - Forestry - L. Paszner	b) To develop a non-sulphur pulping method using catalyzed aqueous solvents from wood
1.9.7.0		FOREST PRODUCT BASED SACRIFICIAL AGENTS FOR ENHANCED OIL RECOVERY	Vancouver	B.C. Research - J. Howard M. Stirling	To evaluate selected silvichemicals and appropriate derivatives for use in tertiary oil recovery systems
1.9.7.0		DEVELOPMENT OF ANALYTICAL METHODOLOGY FOR BIOMASS GASIFICATION PRODUCTS	Vancouver	B.C. Research/Techwest - G. Esplin	To develop a standard procedure for the collection, separation and analysis of raw producer gas
1.9.8.0		PRODUCTION OF LIVESTOCK FEED FROM UNUSED FOREST BIOMASS USING HYDROTROPIC PULPING AGENTS	Vancouver	B.C. Research - J. Howard	To enhance ruminant digestibility through disruption of cell wall cellulose-lignin bonds
1.9.8.0		HARVESTING AND UTILIZATION OF DECADENT CEDAR HEMLOCK	Lumby	FERIC - A.W.J. Sinclair	As in title
1.9.8.0		SURVEY OF SECONDARY LUMBER MANUFACTURING INDUSTRIES IN WESTERN CANADA	Vancouver	FORINTEK - R.W. Nielson	To investigate the technological needs associated with remanufacturing softwood lumber
1.9.8.0		INTENSIVE FORESTRY PRACTICES AND WOOD QUALITY (E.P. 871) SEE ALSO ENTRY (1.4.0.0)	Victoria	Ministry of Forests Research Branch - K. Illingworth	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.9.8.0		BIN AND SILO DESIGN FOR BIOMASS MATERIALS	Vancouver	B.C. Research - N. Bundall	Current work - effective discharge feeder performance
1.9.8.0		DEVELOPMENT OF A DENSE PHASE PNEUMATIC CONVEYING SYSTEM FOR HOG FUEL	Vancouver	B.C. Research - N. Bundall	As in title
1.9.8.0		HIGH ENERGY FLUID JET CUTTING	Vancouver	UBC - Forestry - N.C. Franz	To develop and improve a unique machining process for forest industrial application
1.9.9.0		NOVEL INCISING TECHNIQUES - THEIR FEASIBILITY AND APPLICATIONS	Vancouver	FORINTEK - J.N.R. Ruddick	To determine the use of needle, laser or water-jet incising to improve permeability & treatment
1.9.9.0		FIELD TESTING OF TREATED AND UNTREATED WOOD PRODUCTS	Vancouver	FORINTEK - J.N.R. Ruddick	To undertake long-term outdoor evaluations of preservative-treated wood products such as poles, etc.
1.9.9.0	Cw, H	PROTECTION OF ROOFING MATERIALS - FLAT GRAIN RED CEDAR SHAKES AND WESTERN HEMLOCK SHINGLES	Vancouver	FORINTEK - A.J. Cserjesi	a) To field test the performance of preservatives in pressure treated western red cedar shakes
1.9.9.0	Cw, H	PROTECTION OF ROOFING MATERIALS - FLAT GRAIN RED CEDAR SHAKES AND WESTERN HEMLOCK SHINGLES	Vancouver	FORINTEK - A.J. Cserjesi	b) To test resin treatments for improving the dimensional stability of flat grain shakes & shingles
1.9.9.0		PREVENTION OF SOFT-ROT IN HARDWOODS	Vancouver	FORINTEK - J.N.R. Ruddick	To develop alternative formulations with improved effectiveness against decay of aspen by soft-rot fungi
1.9.9.0		NATIONAL COLLECTION OF WOOD-INHABITING FUNGI	Vancouver	FORINTEK - E.C. Setliff	To maintain & conduct research on a "gene bank" of about 712 named isolates of important wood-inhab. fungi
1.9.9.0		ESTABLISHMENT OF A FACILITY FOR ACCELERATED BIO-DETERIORATION (FAB)	Vancouver	FORINTEK - R.S. Smith	To provide a facility for testing treated and untreated materials for industry

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1.9.9.0		MYCOLOGICAL STUDIES OF WOOD-INHIBITING FUNGI	Vancouver	FORINTEK - E.C. Setliff	To characterize the fungi which develop on wood products treated with various preservatives
1.9.10.0		EMPLOYEE/EMPLOYER EDUCATION IN INDUSTRIAL HEALTH IN THE B.C. FOREST PRODUCTS INDUSTRY	Vancouver	B.C. Research - J. Leach	Produce and present educational mat's on occupat. health: respiratory protection, control of chemical hazards
1.9.10.0		REACTIONS BETWEEN GASES IN KRAFT MILL WORK AREAS	Kraft Mills in B.C.	B.C. Research - J. Leach	Identify hazardous products from chemical reactions between various process and by-product gases
1.9.10.0		BIOLOGICAL CONTAMINANTS IN THE WORKPLACE ATMOSPHERE AT KRAFT MILLS	Kraft Mills in B.C.	B.C. Research - J. Leach	Detect, identify, and count pathogenic bacteria and moulds at kraft mills to determine risks to health
1.9.10.0		CEDAR DUST STUDIES STUDIES AT PLYWOOD PLANTS	Cedar Sawmills in B.C.	B.C. Research - J. Leach	a) Measure respirable, inhalable, and total dust concentrations under winter operating conditions
1.9.10.0		CEDAR DUST STUDIES STUDIES AT PLYWOOD PLANTS	Cedar Sawmills in B.C.	B.C. Research - J. Leach	b) Characterise airborne particles that are now reported as cedar dust
1.9.10.0		CEDAR DUST STUDIES STUDIES AT PLYWOOD PLANTS	Cedar Sawmills in B.C.	B.C. Research - J. Leach	c) Determine if there is a relationship between dust and allergies experienced by employees at mills
1.9.10.0		CEDAR DUST STUDIES STUDIES AT PLYWOOD PLANTS	Cedar Sawmills in B.C.	B.C. Research - J. Leach	d) Identify the primary sources of respirable and inhalable particles
1.9.10.0		CHLOROPHENATES	Wood preserving operations in B.C.	B.C. Research - J. Leach	a) Review the implementation of F.I.I.H.R.P recommendations on handling chlorophenates
1.9.10.0		CHLOROPHENATES	Wood preserving operations in B.C.	B.C. Research - J. Leach	b) Review available information on potential hazards to health of candidate replacement anti-sapstain

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1.9.10.0		CHLOROPHENATES	Wood preserving operations in B.C.	B.C. Research - J. Leach	c) Conduct industrial hygiene surveys of pentachlorophenol use and handling at wood preserving oper.
1.9.10.0		LONG-TERM HEALTH EFFECTS OF KRAFT MILL GASES	Kraft Mills in B.C.	B.C. Research - J. Leach	Summarise info. on the long-term effects of chlorine, chlorine dioxide TRS gases & turpentine vapour
1.9.10.0		MOULDS IN THE WORKPLACE ATMOSPHERE AT SAWMILLS	Sawmills in B.C.	B.C. Research - J. Leach	Detect, identify and count moulds in sawmills to determine if they are a potential risk to health
1.10.0.0		LATE QUATERNARY VEGETATION AND ENVIRONMENTAL CHANGES IN B.C.	SFU	Simon Fraser University - R.W. Matheves	To study the historical development of forests in B.C.
1.10.1.0		STUDIES OF NITROGEN FIXATION IN FOREST ECOSYSTEMS IN THE PRINCE GEORGE FOREST REGION (E.P. 969)	Prince George	Ministry of Forests Research Branch - C. DeLong et al.	To determine if N accumulates in the litter and rhizosphere of stands with a Sitka alder understory
1.10.1.0		OVERSTORY-UNDERSTORY	UBC Research Forest	UBC - Forestry - F.L. Bunnell, D. Vales	To document relationships between G. shallon and forest overstory
1.10.1.0		SHRUB BURIAL BY SNOW	Mt. Seymour	UBC - Forestry/ Simon Fraser University - F. Bunnell, A.Harestad	To document manner in which key browse species are buried by snow
1.10.1.0	Pl, Se	STUDY OF THE PATTERNS OF NITROGEN MOBILIZATION ON INTERIOR OF B.C. CUTOVERS (see also 1.6.1.3)	Clearwater, Okanagan Falls	UBC - Forestry - G.F. Weetman (C. David, C. Haskin)	Determine the magnitude and duration of the "ASSART" effect on interior B.C. cutovers
1.10.1.0		COMPARISON OF THREE DIFFERENT METHODS OF MEASURING TREE FINE ROOT PRODUCTION AND TURNOVER		UBC - Forestry - J.P. Kimmins, H. Hase (D. Coopersmith)	As in title
1.10.1.0		EFFECT OF HERBICIDE CONTROL OF BRUSH ON BRUSH BIOMASS, CHEMISTRY AND NUTRIENT CYCLING	UBC Research Forest Haney	UBC - Forestry - J.P. Kimmins (R. Bigley)	a) To quantify the effect of brush control using glyphosate on the biomass of live brush

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.10.1.0		EFFECT OF HERBICIDE CONTROL OF BRUSH ON BRUSH BIOMASS, CHEMISTRY AND NUTRIENT CYCLING	UBC Research Forest Haney	UBC - Forestry - J.P. Kimmins (R. Bigley)	b) To quantify the effect of brush control using glyphosate on the biogeochemistry of the site
1.10.1.0		CHARACTERIZATION OF YIELD AND SOIL PROPERTIES OF EAST VANCOUVER ISLAND ECOSYSTEMS (112.3)	East Vancouver Island	MacMillan Bloedel Ltd. - W.J. Beese	To analyse growth & yield soil laboratory results to determine if these properties are predictable
1.10.1.0		EFFECTS OF HARVESTING AND SITE PREPARATION ON FOREST RESOURCES AND VALUES (PC-25)	Province-wide	Can. Forestry Service PFRC - R. Smith	To assess the impacts of management practices on site values, and improve these practices as appropriate
1.10.1.0		a) EFFECTS OF FORESTRY PRACTICES ON SENSITIVE SITES (PC-25-253)	Province-wide	Can. Forestry Service PFRC - R. Smith	As in title
1.10.1.0		b) LANDSLIDES, Q.C.I. (PC-25-390)	Province-wide	Can. Forestry Service PFRC - R. Smith	As in title
1.10.1.0		FIRE RESEARCH FOR IMPROVED FOREST RESOURCE MANAGEMENT (PC-30)	B.C. & Yukon	Can. Forestry Service PFRC - B.D. Lawson	To improve fire control and understanding of fire for habitat management
1.10.1.0		a) EXTENSION OF FOREST FIRE DANGER RATING SYSTEM (PC-30-284)	B.C. & Yukon	Can. Forestry Service PFRC - B.D. Lawson	As in title
1.10.1.0		b) PRESCRIBED FIRE EFFECTS ON TREE ESTABLISHMENT, SURVIVAL AND PRODUCTIVITY (PC-30-402)	B.C. & Yukon	Can. Forestry Service PFRC - B.C. Hawkes	As in title
1.10.1.0		SOIL STABILITY ON THE QUEEN CHARLOTTE ISLANDS (E.P. 782) (See also 6.0.0.0)	Q.C.I.	Ministry of Forests Prince Rupert Res.Sec. - D. Wilford	To analyze a series of case studies and relate these to forest and watershed management
1.10.1.0		ECOLOGICAL INVESTIGATIONS OF WILDFIRES IN NORTHERN B.C. (E.P. 868)	Northern B.C.	Ministry of Forests Research Branch - Pojar Meidinger, Trowbridge	As in title

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1.10.1.0		AN ECOSYSTEMATIC APPROACH TO SILVICULTURAL MANAGEMENT OF IMMATURE FORESTS (E.P. 930) (INCLUDES 4 STUDIES)	Sayward Forest	Ministry of Forests Vancouver Forest Region - Klinka, Green, Nyberg	To demonstrate a stand mapping method which is designed for intensive forest planning
1.10.1.0		INVESTIGATIONS OF ATMOSPHERIC AND SOIL CLIMATE IN THE DOME CREEK-McBRIDE-VALEMOUNT AREA OF THE ROCKY MOUNTAIN TRENCH (E.P. 947)	Dome Creek, McBride, Valemount	Ministry of Forests Research Branch - Hope, Blashill, McLeod	As in title
1.10.1.0		QUEEN CHARLOTTE ISLANDS STUDY	Queen Charlotte Islands	FERIC - E.A. Sauder	A study of ways to reduce the environmental impact of logging (See also 1.7.0.0)
1.10.1.0		DEVELOPMENT OF FOUR VERSIONS OF FORCYTE	Vancouver	UBC - Forestry - J.P. Kimmins	To produce an ecologically-sound forest management simulator for a range of conditions and practices
1.10.1.0	Fd	EFFECT OF SITE QUALITY ON PRODUCTION AND TURNOVER OF FINE ROOT BIOMASS	Vancouver Island	UBC - Forestry - H.W. Hase	To examine seasonal fluctuations in fine root biomass at 6 Df sites
1.10.1.0		INFLUENCE OF ABIOTIC AND BIOTIC SOIL FACTORS ON FINE ROOT BIOMASS PRODUCTION	Vancouver Island	UBC - Forestry - H.W. Hase	As in title
1.10.1.0		DETERMINATION OF THE HYDROLOGIC BASIS FOR SLOPE AND CHANNEL STABILITY IN ALPINE ENVIRONMENTS	UBC	UBC - Geography - O. Slaymaker M. Church	As in Title
1.10.1.0		EFFECTS OF SLASHBURNING ON NUTRIENT LOSSES TO THE ATMOSPHERE	UBC Research Forest, Haney	UBC - Forestry - M.C. Feller	See entry under 1.3.1.2
1.10.1.0		EVALUATION OF ESTABLISHMENT REGIMES APPLICABLE TO THE S1 (CH PHASE) ECOSYSTEM ASSOCIATION (Sec. 88; KV 99022)	TFL 25	Ministry of Forests Vancouver Region & Western Forest Products	As in title
1.10.1.0	Fd	AGE STRUCTURE IN OLD GROWTH DOUGLAS-FIR STANDS	SFU	Simon Fraser University - N. Hendrickson	As in title

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1.10.2.0		CLASSIFICATION OF ECOSYSTEMS OF EAST AND CENTRAL VANCOUVER ISLAND (112.4)	Central Vancouver Island	MacMillan Bloedel Ltd. - W.J. Beese	Evaluation of existing old growth data to provide numerical analysis of vegetation for ecosystem classif.
1.10.2.0		ECOSYSTEMS OF THE COAST-INTERIOR ECOTONE IN SOUTHWESTERN B.C. (field work completed) (E.P. 793)	Victoria	Ministry of Forests Vancouver Forest Region - K. Klinka	As in title
1.10.2.0	Ss, H, Cw	SPECIES TRIAL (E.P. 814) TFL24 (SITKA SPRUCE, WESTERN HEMLOCK, WESTERN RED CEDAR)	TFL24, Sewell Inlet, Lyell Island	Western Forest Products - J. Barker	To determine best species for planting on a site-specific basis and effects of deer browsing on growth
1.10.2.0		ECOSYSTEM CLASSIFICATION PROGRAM FOR THE MINISTRY OF FORESTS (E.P. 822) SIX STUDIES, ONE IN EACH FOREST REGION		Ministry of Forests Research Branch - J.Lousier, D.Meidinger	As in title
1.10.2.0		ECOLOGICAL DESCRIPTION AND CLASSIFICATION OF GRASSLANDS (E.P. 888)	Southern Interior B.C.	Ministry of Forests Range Branch T. Lester	To describe and classify grasslands for management
1.10.2.0		ECOSYSTEM MAPPING IN THE PRINCE RUPERT FOREST REGION (E.P. 968)	Prince Rupert	Ministry of Forests Research Branch -Lindeburgh, Trowbridge	To test a method of ecosystem mapping to be used in establishing a standard provincial system
1.10.2.0		INVESTIGATIONS OF SOIL TEMPERATURE IN ECOSYSTEMS OF THE PRINCE RUPERT FOREST REGION (E.P. 920)	Prince Rupert Region	Ministry of Forests Prince Rupert Res. Sec. -R. Trowbridge	To develop a climatic characterization of the biogeoclimatic zones and relate soil temperatures
1.10.2.0		A PROBLEM ANALYSIS OF GRASSLAND CLASSIFICATION (E.P. 931)	B.C.	Ministry of Forests Research Branch - A. Nicholson	To make recommendations for placing the grasslands of B.C. into MOF Ecosystem Classification
1.10.2.0		ECOSYSTEM MAPPING (E.P. 942)	Kamloops Region	Ministry of Forests Research Branch - W.Mitchell, R.Winkler	As in title
1.10.2.0		IDENTIFICATION OF ECOSYSTEM ASSOCIATIONS IN THE NIMPKISH VALLEY (37-003) (Sec. 88 HV 99035)	Nimpkish	Canadian Forest Products - D.E. Rickson	As in title
1.10.2.0		A BIOLOGICAL STUDY OF THE DRY SOUTH CENTRAL REGION OF B.C. (E.P. 887)	Southern Interior B.C.	Ministry of Forests Research Branch - T.T. McIntosh	To collect and identify Bryophytes and relate their occurrence to habitat factors

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1.10.2.0		FOREST CLASSIFICATION	Vancouver Island	Pacific Forest Products - V.J. Korelus	To develop and computerize a new forest inventory system for intensive management
1.10.2.0		ECOSYSTEM MAPPING (E.P. 968)	Prince Rupert Reg.	Ministry of Forests Prince Rupert Res. Sec. - R. Trowbridge	As in title.
1.10.2.0	Fd	CHARACTERIZATION OF TROPHOTOPES IN SOME DOUGLAS-FIR ECOSYSTEMS OF THE ARIEL COASTAL WESTERN HEMLOCK ZONE	Vancouver Island	UBC - Forestry - K. Klinka	As in title
2.1.0.0		BIG HORN SHEEP & CATTLE INTERACTIONS ON ASHNOLA RANGELANDS		UBC - Plant Science Ministry of Forests Range Br. (Chan, Pitt)	As in title
2.1.0.0	Fd, Pl	DEER-CATTLE INTERRELATIONSHIPS	Kamloops	Agriculture Canada - D. Quinton	To evaluate competition between mule deer and cattle on grassland and forested rangeland in interior B.C.
2.2.0.0		MANAGEMENT OF B.C. RANGES FOR OPTIMUM BEEF PRODUCTION AND RESOURCE UTILIZATION	Kamloops	Agriculture Canada - D. Quinton	To optimize range management practices that maintain the range resource and maximize beef productivity
2.2.1.0		MANAGEMENT OF GRASSES AND LEGUMES FOR THE PRODUCTION OF FORAGE	Prince George	Agriculture Canada - W. Pringle	To identify locally-produced feeds for economical beef production
2.2.2.0		EVALUATION OF FORAGE CULTIVARS FOR HAY AND PASTURE	Prince George	Agriculture Canada - K. Boersma	To identify high yielding, quality forage crop species and cultivars
2.2.2.1		REVEGETATION OF RANGELANDS IN SOUTHERN INTERIOR B.C.	Kamloops	Agriculture Canada - A. McLean	To develop rangeland rehabilitation practices to increase beef cattle yields
2.2.3.0		SATELLITE REMOTE SENSING OF KNAPWEED INFESTED RANGE LAND (see also 1.5.2.0)		B.C. Research/Ministry of Forests, Range Br. - G. Tomlins	As in title

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2.2.3.0		BIOLOGICAL CONTROL OF KNAPWEED RESEARCH PROJECT		Agriculture Canada/ Ministry of Forests Range Br. (P. Harris)	As in title
2.2.3.0		BIOLOGICAL CONTROL OF KNAPWEED WITH BUPRESTID BEETLE	UBC	UBC - Plant Science - J.M. Myers	As in title
2.2.4.0		BLOAT INCIDENCE OF ALFALFA AND SELECTED GENOTYPES	Kamloops	Agriculture Canada - W. Majak	To conduct bloat incidence and forage screening trials to evaluate bloat potential of some alfalfa genotypes
2.2.4.0		TIMBER MILK VETCH POISONING	Kamloops	Agriculture Canada - W. Majak	To develop guidelines to prevent TMV poisoning and to elucidate miserotoxin metabolism in cattle
2.2.4.0		QUALITY AND ANTIQUALITY CONSTITUENTS OF FORAGE	Kamloops	Agriculture Canada - W. Majak	To identify, quantify and evaluate quality components and toxins in forages and native range plants
2.2.5.0		MATHEMATICAL MODELLING OF ABIOTIC & GRAZING FACTORS RELATED TO CARBOHYDRATE CYCLING IN BLUE BUNCH WHEAT GRASS & ROUGH FESCUE (see also DCf 9.1.0.0)	UBC	UBC - Plant Science Ministry of Forests Range Br. (Chan/Pitt)	As in title
2.2.5.0		FERTILIZER REQUIREMENTS FOR RUMINANT FEED PRODUCTION	Kamloops	Agriculture Canada - A. van Ryswyk	To determine soil nutrient needs for optimal forage production on native rangelands, grasses and corn
2.2.5.0		RANGE PLANT ESTABLISHMENT, GROWTH AND SURVIVAL	Kamloops	Agriculture Canada - D. Stout	To recommend varieties and treatments to achieve a 10% increase in energy yield of forages in interior B.C.
2.2.5.0		PHYSIOLOGY AND MANAGEMENT RELATED TO WINTER SURVIVAL OF GRASSES AND LEGUMES	Kamloops	Agriculture Canada - D. Stout	a) To evaluate seedling establishment and growth patterns of established range plants,
2.2.5.0		PHYSIOLOGY AND MANAGEMENT RELATED TO WINTER SURVIVAL OF GRASSES AND LEGUMES	Kamloops	Agriculture Canada - D. Stout	b) with recommendations for improved establishment and productivity

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2.3.0.0		ASSOCIATIVE Na FIXATION IN RANGELAND IMPROVEMENT		UBC - Plant Science - F.B. Holl	As in title
2.4.0.0		COMPATIBILITY OF TREE AND GRASS SEEDING IN THE KAMLOOPS FOREST REGION (E.P. 590)	Kamloops Region	Ministry of Forests Kamloops Res. Sec.	As in title
2.4.0.0	PI	DETERMINATION OF THE QUANTITY OF MINERAL SOIL EXPOSURE FOR SATISFACTORY ESTABLISHMENT OF DOMESTIC GRASSES ON CLEARCUTS (E.P. 945)	Kamloops Forest Region	Ministry of Forests Kamloops Res. Sec.	As in title. Not yet implemented
2.5.0.0		RANGE FERTILIZATION (E.P. 861) 5 STUDIES	Kamloops	Ministry of Forests Kamloops Res. Sec. - B. Wikeem	To determine whether clipping of plots has a compounding effect on future yields
2.6.0.0		DETERMINATION OF SEASONAL FORAGE PRODUCTION AND QUALITY IN MAJOR GRAZING SYSTEMS OF PRINCE RUPERT FOREST REGION		Ministry of Forests Range Branch (Willoughby)	As in title
2.6.0.0		TECHNIQUES FOR DETERMINING SHRUB BIOMASS FROM AUXILIARY PLANT VARIABLES AND EVALUATION OF METHODS FOR APPLICATION IN RANGE INVENTORY (E.P. 949)		Ministry of Forests Research Branch	As in title
2.6.0.0		EVALUATION OF QUANTITATIVE SAMPLING METHODS TO DETERMINE IMPORTANCE OF CRYTOGRAMS AS INDICATORS OF RANGE SITE POTENTIAL & CONDITION OF B.C. GRASSLANDS		Ministry of Forests Research Branch - T. McIntosh	(E.P. 955)
2.6.0.0		QUANTITATIVE ESTIMATION OF SHRUB BIOMASS PRODUCTION		UBC - Plant Science - M.D. Pitt	As in title
2.6.0.0		NEIGHBOUR RELATIONSHIPS IN GRASSLAND COMMUNITIES. THEIR INFLUENCE ON THE SPECIES' POPULATION DYNAMICS		UBC - Botany - R.A. Turkington	As in title
3.0.0.0		AN ADAPTIVE SYSTEMS APPROACH FOR THE RESEARCH PROGRAM ON INTEGRATED WILDLIFE-INTENSIVE FORESTRY ON VANCOUVER ISLAND (E.P. 915)	Vancouver Island	Ministry of Forests Research Branch - D. Eastman	As in title

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3.1.0.0		BIG HORN SHEEP & CATTLE INTERACTIONS ON ASHNOLA RANGELANDS		UBC - Plant Science Ministry of Forests Range Br. (Chan, Pitt)	As in title
3.1.0.0		ANALYSIS OF POPULATION DYNAMICS OF BEARS	UBC	UBC - Forestry - F.L. Bunnell M.K. Taylor	To continue development and evaluation of analytical techniques (co-op project)
3.1.2.0		REPRODUCTIVE ECOLOGY OF GYRFALCONS	UBC	UBC - Forestry - F.L. Bunnell N.L. Barrachello	To document reproduction behaviour of gyrfalcons as prey abundance fluctuates
3.1.3.0		VEGETATION AND FORAGING ECOLOGY OF VANCOUVER ISLAND MARMOT IN SUBALPINE ECOSYSTEMS ON VANCOUVER ISLAND	U. Victoria	University of Victoria . - M.A.M. Bell, R. Milko, Biology	To provide informed basis for managing & enhancing normal habitat in connection with forest mgmt.pract.
3.1.3.0	Df	ANIMAL DAMAGE RESEARCH-IMPACT OF DEER BROWSING ON YOUNG FIR PLANTATIONS AND TO ASSESS VARIOUS METHODS OF REDUCING SUCH DAMAGE (2-017)	East Thurlow Island	Crown Forest Industries - F.T. Leslie	As in title (See also 1.4.5.1)
3.1.3.0		FIELD EXCLOSURES	Ramsey Island	Western Forest Products - J. Barker	By use of an exclosure prevent further animal damage to a natural stand
3.1.3.0		HABITAT AND DIET OVERLAP BETWEEN FERAL HORSES AND RANGE CATTLE ON THE SAME GRAZING AREA	Chilcotin	UBC - Animal Science - S. Preston D. Shackleton	To ascertain the degree of overlap in both habitat and plants eaten by feral horses & range cattle
3.1.3.0		FORAGING THEORY FOR RUMINANTS	UBC Research Forest Chilcotin	UBC - Forestry - F.L. Bunnell (Gillingham, Ashcroft)	To explain and predict foraging behaviour of grazing and browsing ruminants
3.1.3.0		IMPACT OF DEER BROWSING (Sec. 88; KV 99024)	TFL 2	Ministry of Forests Vancouver Region & Crown Forest Industries	As in title
3.1.4.0		ECOLOGY & BEHAVIOUR OF GRIZZLY BEARS	South-eastern B.C.	UBC - Animal Science - D.M. Shackleton, B. McLellan	As in title

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3.1.4.0		ENERGETICS OF DEER MOVEMENT THROUGH SNOW	Mt. Seymour	UBC - Forestry - F.L. Bunnell K.L. Parker	To document the manner in which snow influences movement
3.2.0.0		NUTRITIONAL CONSTRAINTS ON DEER POPULATIONS	UBC	UBC - Forestry - F.L. Bunnell	To determine when specific range management practices may yield positive results with deer populations
3.2.0.0	Fd	HABITAT RELATIONSHIPS OF MULE DEER IN THE INTERIOR DOUGLAS-FIR ZONE OF CENTRAL B.C. (E.P. 903)	Cariboo Forest Region	Ministry of Forests Research Branch - H. Armleder	To determine mule deer habitat use and winter range requirements
3.2.0.0		ROOSEVELT ELK/INTENSIVE FORESTRY INTERACTIONS (E.P. 912)	Sayward Forest	Ministry of Forests/ Min. of Environment - D. W. Janz	To assess the response of elk to the various silvicultural practices making up intensive forest mgmt.
3.2.0.0		CARIBOU-FORESTRY INTERACTIONS IN B.C. (E.P. 939)		Ministry of Forests Research Branch - S. Stevenson, D.Hatler	As in title
3.2.0.0		DELINEATION OF CRITICAL HABITAT FOR COASTAL GRIZZLY BEARS	Kimsquit River	UBC - Forestry - M.K. Taylor	As in title
3.2.1.0		AN EVALUATION OF SAMPLING AND ANALYSIS SYSTEMS FOR WILDLIFE HABITAT ANALYSIS (E.P. 950)		Ministry of Forests Research Branch - R. Page	As in title
3.2.3.0		DEVELOPING A WILDLIFE-HABITAT MANAGEMENT SYSTEM (MANATAT) (E.P. 914)		Ministry of Forests Research Branch - R. Ellis	As in title
3.2.3.0		BLACK-TAILED DEER IN SECOND GROWTH FORESTS ON VANCOUVER ISLAND (E.P. 923)	Vancouver Island	Ministry of Forests/ Min. of Environment - R. Davies (IWIFR)	As in title
3.2.3.0		INTENSIVE FORESTRY EFFECTS ON VANCOUVER ISLAND DEER AND ELK HABITATS (E.P. 934)	Vancouver Island	Ministry of Forests - J.B. Nyberg (IWIFR)	To determine how intensive silviculture will affect forage abundance and winter range

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3.2.3.0		COASTAL GRIZZLY BEARS - FOREST HARVESTING INTERACTIONS (E.P. 952)	Kimsquit R.	Ministry of Forests/ Min. of Environment - R. Archibald	As in title
3.2.3.0		IMPACTS OF LOGGING ON MOOSE MIGRATION AND HABITAT SELECTION IN NORTH-CENTRAL B.C.	Prince George	Min. of Environment Fish & Wildlife Branch - F. Schwab	To determine seasonal changes in forage selection, assess changes in plant succession and forage quality
3.2.3.0		SECOND GROWTH DEER WINTER RANGE STUDY (118.1)	Vancouver Island	MacMillan Bloedel - R.T. McLaughlin	To determine over-wintering success of deer in older second-growth stands in severe winters
3.2.3.0		HABITAT RELATIONSHIPS AND POPULATION DYNAMICS OF COASTAL GRIZZLY BEARS	Vancouver Island	UBC - Forestry/ M. of For./M. of Env. - F.L. Bunnell, Hamilton	To evaluate potential relationships between forestry practices and grizzly bears in coastal B.C.
3.2.3.0		PRODUCING WINTER RANGE IN MANAGED FORESTS MANAGEMENT	Vancouver Island UBC Research Forest	UBC - Forestry - F.L. Bunnell	To document the kinds of stand structure which create winter range for black-tailed deer in managed stands
3.2.3.0		QUANTITATIVE RELATIONSHIPS BETWEEN FOREST CANOPY, SNOW CHARACTERISTICS AND HABITAT	UBC	UBC - Forestry - F.L. Bunnell R.S. McNay	To extract relationships from existing data for development of a simulation model
3.2.3.0		CARIBOU-FORESTRY RELATIONSHIPS	Quesnel Highlands	UBC - Forestry/ M. of F./Forest Ind. - F.L. Bunnell, D. Selp	To quanity characteristics of caribou in logged and unlogged areas
3.2.3.0		REVIEW OF DEER BROWSING DAMAGE ON SEEDLINGS IN EXISTING CLOVER PLOTS (119.2)	Vancouver Island	MacMillan Bloedel Ltd. - R.T. McLaughlin	To determine if clover is functioning as an alternate forage, reducing browsing damage by deer
3.2.3.0		SELENITE FIELD TRIALS (118.2)	Vancouver Island	MacMillan Bloedel Ltd. - R.T. McLaughlin	To investigate selenite as a deer browse repellant
3.2.3.0		CLOVER AS AN ALTERNATE FORAGE TO REDUCING BROWSING DAMAGE ON VANCOUVER ISLAND (118.5)	Vancouver Island	MacMillan Bloedel Ltd. - R.T. McLaughlin	To seed additional cutovers with clover to test the effectiveness of alternate forage to reduce damage

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3.2.3.0		SPRING FORAGE PRODUCTION AREAS FOR UNGULATES (118.5)	Vancouver Island	MacMillan Bloedel Ltd. - R.T. McLaughlin	A problem analysis - of providing early seral-stage spring forage prod. areas near old growth winter ranges
3.2.3.0		MANAGING FOREST STANDS TO SUPPLY WILDLIFE NEEDS	Vancouver & Vancouver Island	UBC - Forestry - F.L. Bunnell (Sci. Council of B.C.)	To ascertain how forest management interacts with wild ungulates
3.2.3.0		SECOND-GROWTH/DEER WINTER RANGE STUDY (Sec. 88; KV99015)	TFL 39	Ministry of Forests Vancouver Region & MacMillan Bloedel	As in title
4.1.1.0		TSITIKA RESIDENT FISH USE STUDY (612.5.15)	Tsitika Watershed	MacMillan Bloedel Ltd. - P.G. Bruce	To determine whether resident fish utilize the minor drainages associated with the larger tributaries
4.1.2.0		EXAMINING LOG TRANSPORTATION IMPACTS ON FISH POPULATIONS IN BABINE LAKE (see also 1.8.2.0)	Babine Lake	Westwater Research Cntr. - A.H.J. Dorcey	As in title
4.2.0.0		FISH/FORESTRY INTERACTION PROGRAM (E.P. 862) 5 STUDIES	Queen Charlotte Islands	Fisheries & Oceans/ M. of Env./M. of For. - V. Poulin	To determine how forest harvesting affects fish habitat and to ameliorate ill effects
4.2.0.0		SYNOPTIC SURVEY AND REHABILITATION OF STREAMS	Queen Charlotte Islands	Ministry of Forests - D. Tripp	Identify rehabilitation techniques for debris torrented streams
4.2.0.0		SYNOPTIC SURVEY AND REHABILITATION OF FOREST SITES	Queen Charlotte Islands	Ministry of Forests - W. Carr, R.B. Smith	Addressing the rehabilitation of sites disturbed by mass wasting & determine effect on forest growth
4.2.0.0		SILVICULTURAL SYSTEMS (see also 1.6.0.0)	Queen Charlotte Islands	UBC - Forestry/ Ministry of Forests - P. Sanders	Addressing silvicultural options on unstable slopes
4.2.0.0		ALTERNATE YARDING SYSTEMS	Queen Charlotte Islands	FERIC/ Ministry of Forests - E.A. Sauder	To identify improvements in current yarding systems or alternative systems for use on unstable slopes

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4.2.0.0		MITIGATION TECHNIQUES (117.4). NEW COASTAL GUIDELINES & FEDERAL HABITAT POLICIES HAVE SET REQUIREMENTS FOR MITIGATION & REHBILITATION OF HABITAT.	Coastal B.C.	MacMillan Bloedel Ltd. - W.R. Pollard	a) To determine what measures are feasible and cost effective given resources available in logging div's
4.2.0.0		MITIGATION TECHNIQUES (117.4). NEW COASTAL GUIDELINES & FEDERAL HABITAT POLICIES HAVE SET REQUIREMENTS FOR MITIGATION & REHABILITATION OF HABITAT	Coastal B.C.	MacMillan Bloedel Ltd. - W.R. Pollard	b) To monitor effectiveness of measures to the fisheries research
4.2.1.0		THE BACTERIAL SULPHURETUM AS A HABITAT RESPONSE TO PULP MILL WASTE	U. Victoria	University of Victoria - D.V. Ellis, Biology I. Ostrovsky, GREAT	To determine the impact of forestry wastes on marine fish habitats
4.2.1.0		EFFECT OF HERBICIDE CONTROL OF BRUSH ON STREAM QUALITY	UBC Research Forest Haney	UBC - Forestry - J.P. Kimmins (R. Bigley)	To quantify the effect of brush control using glyphosate on the inorganic chemistry of a small stream
4.2.1.0		STREAMSIDE ALDER/BRUSH STUDY (117.3)	Vancouver Island	MacMillan Bloedel Ltd. - P.B. Bruce	To complete an analysis of streamside alder and brush concerns relative to the fisheries and forestry resources
4.2.1.0		BRENT CREEK STUDY (611.3.2.2)	Graham Island (Q.C.I.)	MacMillan Bloedel Ltd. - W.R. Pollard	To evaluate effectiveness of a variety of measures to enhance in-stream cover for salmon and trout
4.2.2.0		NUTRIENT DYNAMICS OF SMALL FORESTED STREAMS	Vancouver	UBC - Forestry - M.C. Feller	To assess the influence of inflow water and streambed sediment on the chemical composition of small streams
4.2.2.0		EFFECT OF LOGGING ON WATER QUALITY AND YIELD (see also 1.6.1.3)	Jamieson Creek	UBC - Forestry - D.L. Golding	To develop guidelines to protect coastal watersheds from ill-effects of logging
4.2.2.0		RATE OF SNOWMELT DURING RAINFALL	Vancouver	UBC - Forestry - D.L. Golding	a) To compare melt rates from snow during rainfall in clearcut and undisturbed forest
4.2.2.0		RATE OF SNOWMELT DURING RAINFALL	Vancouver	UBC - Forestry - D.L. Golding	b) To develop appropriate ameliorative guidelines

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
4.2.2.0		SNOW ACCUMULATION AND MELT ON FORESTED AND CLEARCUT SITES IN THE WEST KOOTENAYS, BRITISH COLUMBIA (E.P. 967)		Ministry of Forests Research Branch - D. Toews	To determine the impact of timber harvesting on snow accumulation and melt
4.2.2.0		EFFECTS OF FOREST MANAGEMENT PRACTICES ON STREAM WATER QUALITY	Vancouver	UBC - Forestry - M.C. Feller	To assess the effects of clearcutting, slashburning & herbicide applic. on stream physical & chemical quality
5.0.0.0		RECREATION DEMAND STUDY	?	Ministry of Forests - Rec. Mgmt. Branch	To secure data on user numbers and preferences
5.0.0.0		RECREATION USERS PREFERENCE	?	Ministry of Forests - Rec. Mgmt. Branch (Apt)	To obtain reliable data on user numbers and preferences in recreation areas
5.1.0.0		TERRAIN UNIT STABILITY STUDY, Q.C.I. (120.4)	Queen Charlotte Islands	MacMillan Bloedel Ltd. - T.P. Rollerson	a) To characterize steepland landforms which are subject to landslides through clear-cutting or road const.
5.1.0.0		TERRAIN UNIT STABILITY STUDY, Q.C.I. (120.4)	Queen Charlotte Islands	MacMillan Bloedel Ltd. - T.P. Rollerson	b) To develop a mathematical algorithm to estimate whether or not landslides will occur
5.2.0.0		RAIN ON SNOW HYDROLOGY IN THE QUEEN CHARLOTTE ISLANDS (E.P. 959)	Queen Charlotte Islands	Ministry of Forests Prince Rupert Res. Sec. - D.J. Wilford	To determine the differences in snow accumulation and melt between clear-cut and undisturbed forest
5.4.0.0		RATE OF CUT (119.1)	Vancouver Island	MacMillan Bloedel Ltd. - T.P. Rollerson	To assess the change in wind velocities in plantations of different ages
6.0.0.0		REHABILITATION OF LANDINGS AND SKID TRAILS IN THE CARIBOO FOREST REGION (E.P. 777) 5 STUDIES	Cariboo/Chilcotin	Ministry of Forests Cariboo Res. Sec. - A. Vyse	Development and application of techniques to rehabilitate landings and trails
6.0.0.0		HYDROSEEDING LOGGING ROADS FOR STABILIZATION AND RESOURCE PROTECTION (E.P. 818)	All Regions	Ministry of Forests Research Branch - S.G.H. Homoky	To find effective ways to control accelerated erosion following harvesting disturbance

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
6.0.0.0		DEVELOPMENT OF VEGETATION ESTABLISHMENT METHODOLOGIES FOR USE IN SURFACE EROSION CONTROL AND SITE REHABILITATION (E.P. 834) INCLUDES 9 STUDIES		Ministry of Forests Research Branch - W. W. Carr	As in title
6.0.0.0		THE PROPAGATION AND ESTABLISHMENT OF TREE AND SHRUB SPECIES FOR EROSION CONTROL (E.P. 863)	All regions	Ministry of Forests Research Branch - C. Marchant	To evaluate deep rooting shrubs and trees for use on erodible or eroding sites
6.0.0.0		FERTILIZATION, SOIL EROSION CONTROL AND SITE REHABILITATION	Vancouver Island	Pacific Forest Products - L.D. Husted	To establish research projects to preserve or enhance site and forest productivity
6.0.0.0		FISH/FORESTRY INTERACTIONS PROGRAM (E.P. 862) (see also 4.2.0.0)	Queen Charlotte Islands	Ministry of Forests - W. Carr	Address the impact of mass wasting on forest productivity and identify rehabilitation techniques
6.0.0.0		REHABILITATION OF DRASTICALLY DISTURBED FOREST LAND	?	UBC - Forestry - J.V. Thirgood	Not specified
6.0.0.0		BIOLOGY AND ECOLOGY OF SOME NATIVE NITROGEN-FIXING LEGUMES SUITABLE FOR RECLAMATION AT HIGH ELEVATION IN THE ROCKY MOUNTAINS	U. Victoria	University of Victoria - M.A.M. Bell, C. Smyth, Biology	To identify potential nitrogen-fixing sources among native species for use in reclamation of surface mined lands
6.0.0.0		SOIL FAUNA RECOLONIZATION OF HIGH ELEVATION RECLAIMED MINE SPOILS IN SOUTHEASTERN BRITISH COLUMBIA	U. Victoria	University of Victoria - M.A.M. Bell, Biology, J. Lawrence, Wester Coal	To clarify r/ships of soil organisms & terrestrial vegetation as a basis for improved landscape mgmt. practs.
6.0.0.0		REFORESTATION OF LANDSLIDE TRACKS (120.5)	Queen Charlotte Islands	MacMillan Bloedel Ltd. - W.J. Beese	To evaluate methods for early re-establishment of conifers on debris slide tracks
6.0.0.0		INTERACTIVE OPTIMIZATION OF LOG BUCKING UTILIZING DYNAMIC PROGRAMS		UBC - Forestry - G.G. Young	As in title
7.0.0.0		FACTOR PRODUCTIVITY IN THE LUMBER INDUSTRY	Vancouver	UBC - Forestry (NSERC) - D. Haley	To develop a model to relate lumber output & labour, capital and wood inputs in the lumber industry

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
7.0.0.0		ALLOCATION OF CAPITAL TO SILVICULTURE	Vancouver	UBC - Forestry - D. Haley	To develop a method for setting priorities for silviculture expenditures
7.0.0.0		POTENTIAL PROBLEMS IN UTILIZING FAST-GROWN RED CEDAR AND INTERIOR DOUGLAS-FIR	Vancouver	FORINTEK - R.M. Kellogg	To identify the most serious wood quality problems B.C. industry will encounter in the utilization of trees
7.0.0.0		VALUES FROM SECOND GROWTH TIMBER FROM MANAGED AND UNMANAGED STANDS	Vancouver	FORINTEK - G.R. Middleton	To provide an economic assessment of 2nd growth timber by determining conversion costs & product outturn value

APPENDIX 1

B.C. FOREST SERVICE SILVICULTURE BRANCH PROJECTS

The following pages list the operational titles being conducted by the Silviculture Branch, Ministry of Forests, using its identification numbers.

Information on these trials can be obtained through the Branch Director.

APPENDIX 1A

Silviculture

SEED ORCHARDS

SX 82609 Q Quantification of orchard seed production efficiencies and absolute seed losses from the time of flowering through to seed germination

SX 82610 Q Spruce Gall Aphid assessment

(A) Spruce Gall Aphid assessment at Skimikin Nursery

(B) Spruce Gall Aphic assessment

SX 83601 Q Evaluation of Simazine and Glyphosphate application rates for weed control in an Interior spruce seed orchard

APPENDIX 1B

Silviculture

CONES & SEED

SX 84301 V	Direct seeding trial
SX 84301 G	Manual cone distribution on NSR land
SX 84302 K	Direct seeding - cerbel cones
SX 84303 V	Red and yellow cedar filled seed assessment study

APPENDIX 1C

Silviculture

NURSERIES

SX 81212 Q	Chemical root pruning operational trial
SX 82211 Q	Fall Sowing Trial
SX 83107 G	Comparison of the survival and growth response of thinned and normal production nursery stock of various seed lots
SX 83201 Q	Pelleted seed trial
SX 83202 Q	Seed cover trial
SX 83203 Q	Crushed olivine rock and lime trial
SX 83204	Fertilizer and trace element trial
SX 83205	Precision sowing trial
SX 83206	Depth of seed cover trial
SX 83207	Assessment of different Styroblock treatment trials of growth of cedar
SX 83208 Q	Interior Spruce growth trial
SX 83210	Verification of chemical root pruning techniques at Harrop Nursery
SX 84201 Q	Seedling Density Production Trial
SX 84202 Q	Seedling Density Production Trial - Thornhill Nursery
SX 84203 Q	2 + 0 plug container trial
SX 84204 Q	Seedling Density Trial
SX 84205 Q	Experimental Fertilizer Trial
SX 84206 Q	Plant Starter Trial
SX 84207 Q	Osmocote-Nutricote comparison
SX 84208 Q	Sources of iron for container crops
SX 84209 Q	Photo-period effect on coastal species
SX 84210 Q	Soil wetting agents
SX 84211 V	Phyto-toxicity tests with Belmark and Carbofuram

APPENDIX 1D

Silviculture

SX TRIAL INDEX

SITE PREPARATION

SX 82506 Q	Salal control trial
SX 82507 G	Vegetation control with Alsike clover in the Pearce R. area
SX 82508 V	Ploughing as a method of site improvement in Northern Vancouver Island
SX 82509 G	Control of Calamagrostis in plantations of the upper Cache Creek area
SX 82510 Q	Trial of tiller trencher
SX 83501 R	Madge Rotocleaner site preparation
SX 84501 R	Grass/cattle/conifer compatibility
SX 84502 Q	Mounding Bracke scarifier

APPENDIX 1E

Silviculture

SX TRIAL INDEX

PLANTING

RNX 7901	Lodgepole pine root form trial
SX 8001 Q	Co-operative bullet-plug trial
SX 8002 Q	Hormone bullet trial
SX 8003 Q	Trial of Pelton grown mudpacks
SX 8004 Q	Western hemlock paperpot trial
SX 8005 Q	Co-operative structure soil trial
SX 80108 G	Placement fertilization at time of planting
SX 81104 Q	Prince George brush site - plug transplant trial
SX 82101 Q	Hydrogel trial
SX 82102 Q	Survival and growth of trees planted on machine prepared spots
SX 82105 Q	Outplanting of rust resistant white pine
SX 82107 V	Survival and initial growth of morphologically defined classes of Douglas-fir planting stock on high site lands subject to dense cover
SX 82110 N	The effect of apple storage facilities on the field performance of planting stock
SX 82111 N	Root egress from plugs planted on fine textured soils
SX 82205 Q	Chemical root pruning operational trial - 1982
SX 83101 K	Sheltercone seeding trial
SX 83103 G	Elevation transect for Engelmann spruce
SX 83104 N	Sheltercone seeding trial, Boundary District
SX 83105 N	Sheltercone seeding trial, Invermere District
SX 83106 Q	On-site tree storage cover trial

SX TRIAL INDEX

PLANTING

SX 83108 G	Outplanting of experimental large stock (PSB 615 & 415) from Thornhill Nursery
SX 83109 R	Container/plug-bareroot/bareroot Spruce trial
SX 83110 Q	Slurry trial
SX 83111 N	Cerkon sheltercone trial
SX 83112 N	Cerbel sheltercone trial
SX 83113 K	Comparison of root growth response and plant moisture stress of fall-lifted Ponderosa pine established at different dates the following spring
SX 84102 Q	Lodgepole pine plug pruning trial
SX 84103 V	Amabilis fir stock type trial
SX 84104 V	3-way sort Interior spruce trial
SX 84105 N	Sheltercone seeding trial - Findlay Creek
SX 84106 N	Sheltercone seeding trial - Pattison River
SX 84107 G	Interior spruce survival and growth performance by caliper and height
SX 84109 N	Silviculture trial using sheltercones in the Arrow District
SX 84110 G	To use Sowing Rule #1, #2 on S41G3 with a germination percent of 96

APPENDIX 1F

Silviculture

BRUSHING AND WEEDING

SX 82702 N	Field trial of chemical brushing and weeding
SX 82704 R	Operational trial of Roundup herbicide at Hell's Bells
SX 83701 V	Effect of timing on the success of mechanical control of the alder
SX 84701 R	Research trial of 2,4-D and glyphosate
SX 84702 R	Demonstrate effectiveness of brushsaw herbicide applicator in the treatment of willows using 3 selected herbicides
SX 84703 Q	Alder control using brushsaw with herbicide applicator
SX 84704 Q	Aspen control trial

APPENDIX 1G

Silviculture

STAND TENDING

SX 80402 R	Girdling equipment
SX 80403 G	Pruning of juvenile lodgepole pine
SX 81402 K	Clearwater fertilizing trial
SX 82401 C	Strip thinning in juvenile lodgepole pine
SX 82402 V	Corrective fertilization of Brittain River Douglas-fir plantation
SX 82403 V	Fertilization with nitrogen to improve growth of stagnant Sitka spruce near Nahwith Lake
SX 82408 N	Live branch survival and performance in spaced lodgepole pine
SX 83401 Q	Alder control trial
SX 83402 K	Influence of ammonium nitrate on the occurrence of Armillaria mellea in a Douglas-fir plantation
SX 83403 R	Response comparison of Age Class 3
SX 83404 G	Evaluation of 2,4-D Amine and Glyphosphate for hardwood control using two, single tree application methods
SX 83405 G	The use of herbicides for control of Calamagrostis grass in plantations of the Peace River
SX 83407 N	0.5 ha Herbicide trials
Sx 83408 V	Operational trial of the herbicide Roundup at Pender Harbour
SX 83409 V	Conifer release with Garlon 4 at McGuire Creek
SX 84401 R	Row spacing/hand sanitation spacing trial
SX 84402 R	Row spacing/hand spacing/fertilization trial

APPENDIX 2

ADDRESSES OF RESEARCH AGENCIES

PARTICIPATING ORGANIZATIONS	CONTACT PERSON
Agriculture Canada Research Station 3015 Ord Road Kamloops, B.C. V2B 8A9	Dr. J.D. McElgunn Director 376-5565
B.C. Forest Products Ltd. 1050 West Pender Street Vancouver, B.C. V6E 2X3	D.P. Lehand, R.P.F. Staff Forester, TFL's & TF's 665-3821
B.C. Research 3650 Wesbrook Mall Vancouver, B.C. V6S 2L2	Dr. T.E. Howard Executive Director 224-4331
Canadian Forest Products Ltd. 2800 - 1055 Dunsmuir Street P.O. Box 49420, Bentall P.S. Vancouver, B.C. V7X 1B5	Mr. D.E. Rickson Chief Forester 661-5241
Canadian Forestry Service Pacific Forest Research Centre 506 West Burnside Road Victoria, B.C. V8Z 1M5	Mr. D.R. Macdonald Regional Director, P&Y 388-3811
Clay's Nurseries 3666 - 224 Street Langley, B.C. V3A 4R3	Mr. L. Clay Chairman 530-5188
Crown Forest Industries Ltd. Coast Wood Products P.O. Box 2000 New Westminster, B.C. V3L 5A4	Mr. F.T. Leslie Administrative Forester 521-1941
Forest Engineering Research Institute of Canada (FERIC) 2112 West Broadway Vancouver, B.C. V6K 2C8	Mr. G.V. Wellburn Manager, Western Division 732-3711

PARTICIPATING ORGANIZATIONS	CONTACT PERSON
Fisheries & Oceans Pacific Region 1090 West Pender Street Vancouver, B.C. V6E 2N9	Head, Habitat Management Section Dr. G. Hartman, Fish/Forestry Interaction Project 666-3545
Forintek Canada Corp. 6620 N.W. Marine Drive Vancouver, B.C. V6T 1X2	Dr. C.C. Walden Director, Western Laboratory 224-3221
MacMillan Bloedel Research 3350 East Broadway Vancouver, B.C. V5M 4E6	Dr. P.L. Cottell, Director 254-5151
MacMillan Bloedel Ltd. Woodland Services 65 Front Street Nanaimo, B.C. V9R 5H9	Mr. R.C. Bower Research Data Coordinator Land Use Planning Advisory Team 753-1112
Ministry of Environment Fish & Wildlife Branch Parliament Buildings Victoria, B.C. V8V 1X4	Dr. D.S. Eastman i/c Wildlife Research 387-4573
Ministry of Forests Engineering Branch 1450 Government Street Victoria, B.C. V8W 3E7	Mr. C.P. Williams Director 387-6640
Ministry of Forests Protection Branch 31 Bastion Square Victoria, B.C. V8W 3E7	Mr. H.G. Doerksen Director 387-5965
Ministry of Forests Range Management Branch 1450 Government Street Victoria, B.C. V8W 3E7	Mr. W.N. McLachlan Director 387-3213
Ministry of Forests Recreation Management Branch 1450 Government Street Victoria, B.C. V8W 3E7	Director 387-1946

PARTICIPATING ORGANIZATIONS	CONTACT PERSON
Ministry of Forests Research Branch 1450 Government Street Victoria, B.C. V8W 3E7	Dr. J.A. Dangerfield Director 387-6720
Ministry of Forests Silviculture Branch 1450 Government Street Victoria, B.C. V8W 3E7	Mr. C. Clarke SX Trial Coordinator 387-1191
Ministry of Forests Cariboo Forest Region 540 Borland Street Williams Lake, B.C. V2G 1R8	Mr. A.H. Vyse Regional Research Silviculturist 398-7121
Ministry of Forests Kamloops Forest Region 515 Columbia Street Kamloops, B.C. V2C 2T7	Research Research Silviculturist 374-7741
Ministry of Forests Nelson Forest Region 518 Lake Street Nelson, B.C. V1L 4C6	Mr. C.F. Thompson Regional Research Silviculturist 354-4181
Ministry of Forests Prince George Forest Region 1011 - 4th Avenue Prince George, B.C. V2L 3H9	Mr. L.J. Herring Regional Research Silviculturist 564-0778
Ministry of Forests Prince Rupert Forest Region P.O. Box 5000 Prince Rupert, B.C. V8J 1B9	Mr. J. Pojar, Chairman Research Section 847-4511
Ministry of Forests Vancouver Forest Region 4595 Canada Way Burnaby, B.C. V5G 4L9	Mr. F.T. Pendl Regional Research Silviculturist 299-9151

PARTICIPATING ORGANIZATIONS	CONTACT PERSON
Nawitka Renewable Resource Consultants Ltd. 836-840 Cormorant Street Victoria, B.C. V8W 1R1	384-5133
Pacific Forest Products Limited Forestry Centre 8067 East Saanich Road, R.R. #1 Saanichton, B.C. V0S 1M0	Mr. V.J. Korelus Manager, Forestry Services & Research 652-4023, 652-3013
Pelton Reforestation Ltd. 12930 - 203rd Street Maple Ridge, B.C. V3Z 1A1	Mr. N.R. Pelton 465-5411
Poulin & Associates 2153 West 46th Avenue Vancouver, B.C. V6M 2L2	Mr. V. Poulin 263-0424
Pulp and Paper Research Institute of Canada (PPRIC) 6620 N.W. Marine Drive Vancouver, B.C. V6T 1X2	Dr. J.V. Hatton 228-1147
Reid, Collins & Associates Ltd. 1178 West Pender Street Vancouver, B.C. V6E 3X4	Mr. P. Appleby 669-3134
Science Council of B.C. 100 - 3700 Gilmore Way Burnaby, B.C. V5G 4M1	Dr. J.T. Sample Executive Director 438-2752
Simon Fraser University Department of Biological Sciences Burnaby, B.C. V5A 1S6	Dr. J.H. Borden 291-4475
Tahsis Company Ltd. 1101 West Pender Street Vancouver, B.C. V6E 2V4	Mr. S.I.O. Rasmussen, Chief Forester 664-5151
Techwest Enterprises Ltd. 3650 Wesbrook Mall Vancouver, B.C. V6S 2L2	Mr. J. Wallis 224-1113

PARTICIPATING ORGANIZATIONS	CONTACT PERSON	
University of British Columbia		
Faculty of Forestry	Research Coordinator	228-2727
Department of Animal Science	Head	228-2794
Department of Botany	Head	228-3554
Department of Chemical Engineering	Head	228-3121
Department of Chemistry	Head	228-2471
Department of Civil Engineering	Head	228-4266
Depart. of Electrical Engineering	Head	228-3194
Department of Geography	Head	228-3246
Dept. of Mechanical Engineering	Head	228-3484
Dept. of Metallurgical Engineering	Head	228-3671
Department of Plant Science	Head	228-3451
Department of Soil Science	Head	228-3477

University of Victoria Department of Biology P.O. Box 1700 Victoria, B.C. V8W 2Y2	Dr. J.E. McInerney Chairman, Department of Biology 721-7095
Weldwood of Canada Ltd. 1055 West Hastings Street P.O. Box 2179 Vancouver, B.C. V6B 3V8	Mr. A.S. Gray, Chief Forester 668-3600
Western Forest Products Ltd. 1111 West Georgia Street Vancouver, B.C. V6E 3G8	Dr. J. Barker 684-0151
Westwater Research Centre University of British Columbia Vancouver, B.C. V6T 1W5	Mr. A.H.J. Dorcey Assistant Director 228-4956
Windsor Machine Co. Ltd. 2965 Lake City Way Burnaby, B.C. V5A 2Z9	 420-5427

PART II

FIELD TESTS AND DATA COLLECTION INVESTIGATIONS IN THE PROVINCE OF B.C.

Prepared by

Forest Research Council of B.C.
#305 - 7671 Alderbridge Way
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OCTOBER 1984

B. DATA COLLECTION AND INVENTORY

1.0.0.0 SEED PRODUCTION AND GENETICS

2.0.0.0 NURSERY PRACTICES

3.0.0.0 SILVICULTURE AND TENDING

- 3.1.0.0 Afforestation/reforestation
- 3.2.0.0 Stand tending
- 3.3.0.0 Silvics
- 3.4.0.0 Protection
  - 3.4.1.0 insects and diseases
  - 3.4.2.0 fire

4.0.0.0 FOREST/STAND MANGEMENT

- 4.1.0.0 Intensive forestry
- 4.2.0.0 Timber supply
- 4.3.0.0 Economics and labour
- 4.4.0.0 Inventory, mensuration and yields
- 4.5.0.0 Stand modelling

5.0.0.0 ECOLOGICAL STUDIES AND ENVIRONMENT

- 5.1.0.0 Mapping classification, description
- 5.2.0.0 Integrated use
- 5.3.0.0 Hydrology
- 5.4.0.0 Meteorology

6.0.0.0 HARVESTING

7.0.0.0 PRODUCTS AND PROCESSING

- 7.1.0.0 Energy from biomass
- 7.2.0.0 Fuel wood studies

8.0.0.0 LAND USE

- 8.1.0.0 Recreational land use

9.0.0.0 MISCELLANEOUS

- 9.1.0.0 Statistical methods, computer applications
- 9.2.0.0 Information systems, terminology
- 9.3.0.0 Research and Education

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
1.0.0.0		REPRODUCTIVE CYCLE OF B.C. CONIFER GENERA, BOOKLET SERIES (E.P. 941)		Ministry of Forests Research Branch - J.N. Owens	As in title
2.0.0.0		MARGUERITE GROWTH TEST (RNX 7965)	Marguerite	Ministry of Forests Silviculture Branch	Evaluate Marguerite nursery site
3.1.0.0		REGENERATION FAILURE ON SOUTH-FACING ASPECTS (316-1)	Vancouver Island	MacMillan Bloedel - B.G. Dunsworth	As in title
3.1.0.0	Fd	ASSESSMENT OF PLANTATION GROWTH RATES ON TFL#5	TFL#5	Ministry of Forests	To develop a regression analysis comparing actual with anticipated growth rates
3.1.0.0		TRIALS OF TIMBERLAND TREE PLANTER	Interior Plateau	Ministry of Forests Silviculture Branch	To test success of mechanical planting of bareroot seedlings into gray luvisols
3.2.0.0	Fd	EVALUATING GROWTH RESPONSE IN OPERATIONALLY FERTILIZED DOUGLAS-FIR STANDS		UBC - Forestry - T.M. Ballard	As in title
3.2.0.0		STANDARD PROTOCOLS FOR FIELD TRIALS (E.P. 970.02)		Ministry of Forests (Herring, Pollack, Boateng)	As in title
3.3.0.0	Se, Sw	SEED YIELDS FOR SI CONES	Vernon	Ministry of Forests Silviculture Branch - P. Birzins	To develop a reliable 'short cut' method of estimating yield of filled seeds in cones
3.3.0.0	Sw	PLANTATION GROWTH PERFORMANCE ANALYSIS IN THE NORTHERN INTERIOR (E.P. 938)	Prince George Forest Region	Ministry of Forests Research Branch - D. Draper	To prepare provisional plantation performance standards and to identify sources of variation
3.3.0.0	Pl	COLLECTION OF LODGEPOLE PINE WOOD BARK, FOLIAGE AND STUMP-ROOT SYSTEMS FOR SPECIES CHARACTERIZATION	B.C.	UBC - Forestry - R.W. Kennedy	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
3.4.0.0		VALUE SYSTEMS FOR FOREST PROTECTION	Victoria	Ministry of Forests Protection Branch - P. Fuglem	To evaluate the effectiveness of B.C. forest protection
3.4.0.0		FOREST INSECT AND DISEASE SURVEY (PC-02)	B.C. & Yukon	Can. Forestry Service PFRC - G.A. van Sickle	To assess and evaluate insect and disease populations and damage
3.4.0.0		a) DETECTION AND REPORTING (PC-02-096)	B.C. & Yukon	Can. Forestry Service PFRC - G.A. van Sickle	As in title
3.4.0.0		b) INSECT DIAGNOSTIC SERVICES (PC-02-097)	B.C. & Yukon	Can. Forestry Service PFRC - D. Evans	As in title
3.4.0.0		c) DISEASE DIAGNOSTIC SERVICES (PC-02-099)	B.C. & Yukon	Can. Forestry Service PFRC - J.C. Hopkins	As in title
3.4.0.0		d) SAMPLING METHODOLOGIES (PC-02-399)	B.C. & Yukon	Can. Forestry Service PFRC - T.L. Shore	As in title
3.4.0.0		e) MENSURATION OF PEST DAMAGE (PC-02-404)	B.C. & Yukon	Can. Forestry Service PFRC - W. Stanek	As in title
3.4.1.0		PESTICIDE SPRAY EQUIPMENT	Victoria	Ministry of Forests Protection Branch - D.W. Langridge	To prepare qualitative comparisons of available aerial spray equipment
3.4.1.0		PEST MANAGEMENT INFORMATION SYSTEM	Victoria	Ministry of Forests Protection Branch - R.C. Sutton	To develop cost-effective pest management systems
3.4.1.0		CHEMICAL ECOLOGY AND NATURAL PRODUCT CHEMISTRY OF CANADIAN INSECT PESTS	SFU	Simon Fraser University - K. Slessor	As in Title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
3.4.1.0		CHEMICAL AND BIOCHEMICAL STUDIES OF NATURAL PRODUCTS	SFU	Simon Fraser University - C. Oehlschlager	As in Title
3.4.1.0		CHARACTERIZATION OF MINERAL PROFILES OF FOREST INSECTS AND CONIFER SEEDS BY X-RAY SPECTROMETRY	Vancouver	UBC - Forestry - J.A. McLean	As in title
3.4.2.0		AIRPRO ACQUISITION AND OPERATION	Victoria	Ministry of Forests Protection Branch - R.C. Sutton	To assess airtanker performance and optimal logistics
3.4.2.0	Py	FIRE ECOLOGY AND MANAGEMENT GUIDELINES FOR INTERIOR PONDEROSA PINE AND MIXED CONIFER FOREST TYPES	Victoria	Ministry of Forests Protection Branch - J.V. Parminter	To collate and disseminate information on the use of fire for Ponderosa pine habitat management
3.4.2.0		STANDARDS FOR PRESCRIBED FIRE DATA COLLECTION	Victoria	Ministry of Forests Protection Branch - J.V. Parminter	To prepare and publish guidelines setting out minimum standards for prescribed fire data recording
4.1.0.0		LONG-TERM INTENSIVE FOREST MANAGEMENT PROGRAMS		UBC - Forestry - R.W. Sanders	As in title
4.2.0.0		UTILIZATION ECONOMICS - DETERMINATION OF COST/ BENEFITS FOR DIFFERENT UTILIZATION LEVELS ON THE COAST		FERIC - A.W.J. Sinclair E.A Sauder	As in title
4.3.0.0		THE STRUCTURE OF FOREST POLICY IN CANADA - A DOCUMENTATION AND EVALUATION OF FOREST POLICY IN EACH OF THE CANADIAN PROVINCES		UBC - Forestry - P. H. Pearse	Analysis of major issues of public forest policies
4.3.0.0		THE FOREST SECTOR ANALYSIS PROJECT	Vancouver	UBC - Forestry - P.H. Pearse (& others)	Development of an analytical system for investigating economic and policy issues in Canada's forest sector
4.3.0.0		PARAMETRIC CHARACTERIZATION OF PRODUCTION TECHNOLOGIES IN THE LUMBER INDUSTRY	Vancouver	UBC - Forestry - D. Haley	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
4.4.0.0		IMPROVED SAMPLING METHODOLOGY: SAMPLING FOR TREE DENSITY AND SPATIAL PATTERNS (E.P. 924)	?	Ministry of Forsets - H. Stauffer	Not specified
4.4.0.0		IMPROVED METHODS OF SAMPLING DESIGN (E.P. 925)	Victoria	Ministry of Forests Research Branch - H.B. Stauffer	As in title
4.4.0.0		YIELD STUDIES, QUEEN CHARLOTTE ISLANDS	Q.C.I.	Western Forest Products - J. Barker	To conduct a progressive yield study in second-growth stands
4.4.0.0		TREE-RING ANALYSES TO IMPROVE YIELD OF NATURAL AND PLANTED STANDS		UBC - Forestry/NSERC - J.H.G. Smith	As in title
4.4.0.0		SUMMARY OF TIMBER INVENTORY DATA FROM THE UBC ENDOWMENT LANDS		UBC - Forestry - J.H.G. Smith	As in title
4.4.0.0	Sw, Pl, Df	A DEMONSTRATION OF MANAGED STAND SPECIES PRODUCTIVITY (E.P. 973) 2 STUDIES	Prince George, Kenneth Creek	Ministry of Forests Pr. George Res. Sec. - D. Draper, L. Herring	To compare the productivity of different species on a single site
4.4.0.0		FOREST MODELS TO ACCOUNT FOR NON-SALVABLE LOSSES (see also 3.4.0.0)	Victoria	Ministry of Forests Protection Branch - D. Gilbert	To analyse losses to fire, insect and diseases in relation to timber supply and protection intensity
4.4.0.0		PLOT INSTALLATION AND REMEASUREMENT	Coastal B.C.	MacMillan Bloedel Ltd. - K. Iles	To gather and edit permanent growth plot information for use in growth modelling and analytical studies
4.4.0.0		IMPROVED SAMPLING METHODOLOGY: SAMPLING FOR TREE DENSITY AND SPATIAL PATTERN (E.P. 924)	Victoria	Ministry of Forests Research Branch - H.B. Stauffer	As in title
4.4.0.0		WOOD AND BARK VOLUME ESTIMATION USING LOWER BOLE TAPER AND PERCENTAGE OF BARK		UBC - Forestry - A. Kozak	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
4.4.0.0		IMPROVING STATISTICAL METHODOLOGY IN POPULATION BIOLOGY AND RENEWABLE RESOURCE MANAGEMENT	SFU	Simon Fraser University - R. Routledge	As in Title
4.5.0.0		MONTE CARLO SIMULATIONS OF SAMPLING METHODS WITH RESPECT TO SPATIAL PATTERN		UBC - Forestry - A. Kozak	As in title
4.5.0.0	Pl	FIELD RESEARCH TO COLLECT CALIBRATION DATA FOR LODGEPOLE PINE FOR USE IN FORCYTE-11	Southeastern B.C. (Cranbrook, Invermere)	UBC - Forestry - J.P. Kimmins (P. Comeau)	To calibrate FORCYTE for interior lodgepole pine and to use the model to develop management guidelines
4.5.0.0	Fd	DEVELOPMENT AND APPLICATION OF THE DOUGLAS-FIR GROWTH MODEL (TASS-Df) (E.P. 927)	Victoria	Ministry of Forests Research Branch - K.J. Mitchell	As in title
4.5.0.0		REFINEMENT, EVALUATION AND TESTING FORCYTE SIMULATION MODELS (Enfor P-285)	Vancouver	UBC - Forestry - J.P. Kimmins	As in title
4.5.0.0		COMPUTER GROWTH MODELLING	Coastal B.C.	MacMillan Bloedel Ltd. - K. Iles	To provide growth estimates for economic and silvicultural decisions requiring projected growth of stands
5.0.0.0		PERCEPTUAL FACTORS AND LANDSCAPE ATTRIBUTES IN SCENIC PREFERENCE	Vancouver	UBC - Forestry - P.A. Miller	To relate theoretical scenic quality ratings with visitor preferences
5.0.0.0		IMPROVED USE OF METEOROLOGY IN FORESTRY (PC-46)	B.C. & Yukon	Can. Forestry Service PFRC - R.H. Silversides	To acquire and apply meteorologic knowledge to problems in the forest environment
5.1.0.0		QUANTIFICATION OF SOIL NUTRIENT REGIMES IN THE PRINCE GEORGE FOREST REGION (E.P. 963)	Prince George Forest Region	Ministry of Forests Research Branch - D.G. Hope, A.J.McLeod	As in title
5.1.0.0		SOIL PLANT RELATIONSHIPS	Southern Interior	Agriculture Canada - A. van Ryswyk	a) To define evapotranspiration characteristics of crested wheatgrass on Dark Brown soils

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
5.1.0.0		SOIL PLANT RELATIONSHIPS	Southern Interior	Agriculture Canada - A. van Ryswyk	b) To prepare a manual outlining remote sensing mapping methods for rangeland vegetation
5.1.0.0		SOIL PLANT RELATIONSHIPS	Southern Interior	Agriculture Canada - A. van Ryswyk	c) To prepare a technological transfer on the distribution of wet lands in interior B.C.
5.1.0.0		SOIL PLANT RELATIONSHIPS	Southern Interior	Agriculture Canada - A. van Ryswyk	d) To determine the relationships between forage growth and soil water regime & temperature on benchmark soil
5.1.0.0	Fd	CLASSIFICATION OF RANGE PLANT COMMUNITIES	Kamloops	Agriculture Canada - A. McLean	To develop an ecological classification for management in the Chilcotin and I.D.F. zone grasslands
5.1.0.0		ECOLOGICAL CLASSIFICATION OF FOREST LAND	Vancouver Island	Pacific Forest Products - V.J. Korelus	To classify and map fee simple lands from an ecological viewpoint for intensive silviculture
5.1.0.0		MEADOW VEGETATION IN THE FRONT RANGE OF THE ROCKY MOUNTAINS OF SOUTHEASTERN B.C.	U. Victoria	University of Victoria - M.A.M. Bell, Biology - D.F. Fraser, Westar	To provide a basis for improved reclam. practices in surface mined areas of w/life (elk) & forest prod.
5.1.0.0		LANDSLIDE INVENTORY TFL 20 & 21		MacMillan Bloedel Ltd. - S.C. Chatwin	Study landforms and terrain responsible for landslides
5.1.0.0		ORDINATION AND CLASSIFICATION OF RANGELAND VEGETATION IN SOUTH CENTRAL B.C.	U. Victoria	University of Victoria - M.A.M. Bell, Biology - T. Lester, M. of F.	To improve prediction capabilities for range and forest management practices.
5.2.0.0		VEGETATION RESPONSE TO POWERLINE RIGHT-OF-WAY CLEARING	B.C.	UBC - Forestry - M.C. Feller	As in title
5.2.0.0		FISH/FORESTRY INTERACTIONS IN AREAS OF INTENSIVE MASS WASTING (E.P. 662) FIVE STUDIES	Queen Charlotte Islands	Min. of Forests/Min. of Environment/Fisheries & Oceans - V.A. Poulin	Report & recommendations

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
5.2.0.0		EFFECTS OF INTENSIVE FOREST MANAGEMENT ON NON-UNGULATE WILDLIFE (E.P. 916)	?	Ministry of Forests Research Branch - K. Sadoway	As in title
5.2.0.0		PROBLEM ANALYSIS: INTERACTIONS AMONG FORESTRY, RANGE AND WILDLIFE MANAGEMENT IN THE EAST KOOTENAYS (E.P. 936)	East Kootenays	Ministry of Forests Research Branch - M.D. Pitt	As in title
5.2.0.0		WILDLIFE HABITAT HANDBOOKS FOR THE FORESTS AND RANGELANDS OF B.C. AND ASSOCIATED PROJECTS (E.P. 951) INCLUDES 2 STUDIES	Victoria	Ministry of Forests Research Branch - R. Ellis	As in title
5.2.0.0		PREPARATION OF GUIDELINES FOR THE MANAGEMENT OF MULE DEER HABITAT IN THE INTERIOR OF B.C. FORESTS	Caribou/Chilcotin	Min. of Environment Fish & Wildlife Branch	Seasonal habitat use by deer and movements of deer as affected by timber harvesting are being studied
5.2.0.0		QUALITY AND DIETS OF CATTLE AND DEER	Kamloops	Agriculture Canada - D. Quinton	To determine the quality of range diets of deer and cattle
5.2.0.0		LEGUME-CONIFER-WILDLIFE INTERACTION STUDY (555-7)	Vancouver Island	MacMillan Bloedel - R.T. McLaughlin	To test if legumes will attract browning thereby sparing planted seedlings
5.2.0.0		RATE OF CUT GROUP OF STUDIES DESIGNED TO EVALUATE THE IMPACTS OF FOREST HARVESTING AND REGROWTH ON SNOW HYDROLOGY AND ASSOC. FISH/WILDLIFE RESOURCES		B.C. Forest Products/ Ministry of Forests (Section 88)	As in title
5.2.0.0		a) MISCELLANEOUS ENVIRONMENTAL RESEARCH AND ASSESSMENT (PC-43-369)	B.C. & Yukon	Can. Forestry Service PFRC - W. Stanek	As in title
5.2.0.0	Ss	b) SITKA SPRUCE B.C. & YUKON (PC-43-395)	B.C. & Yukon	Can. Forestry Service PFRC - W. Stanek	As in title
5.2.0.0		ENVIRONMENTAL IMPACT ASSESSMENT (PC-43)	B.C. & Yukon	Can. Forestry Service PFRC - W. Stanek	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
5.2.0.0		CARNATION CREEK EXPERIMENTAL WATERSHED PROJECT (PC-56)	Carnation Creek	Can. Forestry Service PFRC - R.B. Smith	Integration of forestry, vegetation, water and soil studies
5.2.0.0		a) HYDROLOGY OF SLOPES (PC-56-214)	Carnation Creek	Can. Forestry Service PFRC - E. Hetherington	As in title
5.2.0.0		b) LAND AND VEGETATION ASSESSMENT (PC-56-218)	Carnation Creek	Can. Forestry Service PFRC - E. Oswald	As in title
5.2.0.0		c) EFFECTS ON SOILS (PC-56-364)	Carnation Creek	Can. Forestry Service PFRC - R. Smith	As in title
5.3.0.0		HYDROLOGY RESEARCH - GVRD WATERSHEDS	Lower Mainland	UBC - Forestry - R.W. Kennedy	Not specified
5.3.0.0		EROSION AND WATER QUALITY AFTER LOGGING IN THE OKANAGAN	Southern Interior	UBC - Forestry - D.L. Golding	As in title
5.3.0.0		INVESTIGATIONS OF THE FOREST WATER BALANCE AND TREE GROWTH, TWO STUDIES (E.P. 855)	Vancouver Island	Ministry of Forests Research Branch - T.A. Black	As in title
5.3.0.0		SOIL MOISTURE REGIMES ON A FORESTED SLOPE (E.P. 902) TWO STUDIES	Mesachie Lake, Furry Creek	Ministry of Forests Research Branch - D.G. Gilles	As in title
5.3.0.0		UPPER PENTICTON CREEK EXPERIMENTAL WATERSHED STUDY (E.P. 956)	Okanagan	Ministry of Forests Research Branch - J.D. Cheng	As in title
5.3.0.0		RAIN-ON-SNOW HYDROLOGY IN THE QUEEN CHARLOTTE ISLANDS (E.P. 959)	Queen Charlotte Islands	Ministry of Forests Research Branch - D.J. Wilford	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
5.3.0.0		ESTIMATING PEAK, LOW AND ANNUAL FLOWS FROM UNGAUGED STREAMS USING GEOMORPHIC VARIABLES		UBC - Forestry - D.L. Golding	As in title
5.3.0.0		ACCUMULATION OF FLUVIAL SEDIMENT 'WEDGES' ALONG CHANNELS DISTURBED BY LOGGING ACTIVITY	Vancouver	UBC - Geography - R.G. Roberts (contact M. Church)	As in title
5.3.0.0		CHARACTERIZATION OF FOREST STREAMS FOR FISH HABITAT APPRAISAL		UBC - Georgaphy - D. Hogan (contact M. Church)	As in title
5.4.0.0		SOIL MOISTURE AND TEMPERATURE INVESTIGATIONS IN THE KAMLOOPS FOREST REGION (E.P. 943)	Kamloops	Ministry of Forests Kamloops Res. Branch - R.D. Winklar	As in title
5.4.0.0		DESIGN STORY CHARACTERISTICS IN STEEP CATCHMENTS IN COASTAL MOUNTAINS		UBC - Civil Eng. - W.F. Caselton	As in title
6.0.0.0		EFFECTS OF HARVESTING AND SITE PREPARATION PRACTICES ON FOREST RESOURCES AND VALUES (PC-25)	Southern Interior Vancouver Island	Can. Forestry Service: PFRC	Not specified
6.0.0.0		PHOTOLOGGING SYSTEM	Vancouver	Techwest Enterprises Ltd - J. Wallis	Automated recording of road conditions, grade, surface, roughness, etc.
6.0.0.0		REHABILITATION OF SEVERELY-DISTURBED FOREST LAND	British Columbia	UBC - Forestry/Soils - T.M. Ballard	To develop, test and analyze rehabilitation methods
7.0.0.0		INCREMENT CORE SAMPLING TECHNIQUES MANUAL	Vancouver	FORINTEK - L.A. Jozsa	To prepare and distribute a comprehensive manual on increment core sampling techniques
7.0.0.0		PREPARATION OF ECONOMIC FORECASTS FOR OIL AND NATURAL GAS FOR B.C. PULP AND PAPER MILLS	Victoria	Robinson Consulting Associates Ltd.	As in title

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
7.1.1.0		SOCIO-ECONOMIC IMPACT OF AN INTEGRATED FUEL AND FIRE PRODUCTION AND MERCHANDISING SYSTEM FOR COASTAL B.C. (Enfor P-253)	B.C. Coast	Nawitka Renewable Resource Consultants	To quantify and evaluate burnable residues from different utilization intensities
8.0.0.0		CARNATION CREEK	West Coast Vancouver Island	Fisheries & Oceans Biological Station - G. Hartman	Multi-year study of effects of logging on the fish resources of a small coastal stream
8.0.0.0		FISH/FOREST INTERACTION PROGRAM	Queen Charlotte Islands	Fisheries & Oceans/ M. of Env./M. of For. - V. Poulin	Investigation of effects of steep slope logging on terrain and stream stability and fish resources
8.0.0.0		ESTUARINE RECOVERY	Cowichan River Estuary	Fisheries & Oceans Nanaimo - B. Hillaby	Comparison of biolog. productivity of pristine areas with those presently or previously used for log storage
8.0.0.0		HABITAT CREATION AND MONITORING	Campbell River Estuary	Fisheries & Oceans - M. Brownlee	Creation of islands of intertidal habitat in an area previously degraded by log storage and handling
8.0.0.0		LANDSCAPE DESIGN AND REGIONAL PLANNING ASPECTS OF LAND RECLAMATION IN THE HIGHLAND VALLEY REGION	Kamloops	UBC - Forestry - J.V. Thirgood	
8.1.0.0		STUDIES INTO THE STATUS OF AND FUTUE MANAGEMENT DIRECTIONS FOR HERITAGE CONSEVATION AREAS IN B.C.		UBC - Forestry - P.J. Dooling	As in title
8.1.0.0		EFFECTS OF SHAPING CUT BLOCKS ON LANDSCAPE PREFERENCE	Vancouver	UBC - Forestry - P.A. Miller	As in title
8.1.0.0		BRITISH COLUMBIA PROVINCIAL PARKS: RECREATION USE BY THE PHYSICALLY DISABLED		UBC - Forestry - P.J. Dooling	To identify use needs of the disabled in B.C.'s recreational areas
8.1.0.0		WILDERNESS RECREATION USE IN THE STEIN RIVER BASIN: INSIGHTS FOR FOREST RECREATION MANAGEMENT	Stein River Basin	UBC - Forestry - P.J. Dooling	To describe the patterns of recreational use in a roadless area, 1979-81

CODE #	Spp.	PROJECT TITLE	LOCATION	PRINCIPAL RESEARCHER	OBJECTIVE
8.1.0.0		SCENIC FACTORS OF THE BRITISH COLUMBIA COASTLINE - AN EMPIRAL STUDY OF DIFFERENT LAND USE ACTIVITIES AND SHORELINE CHARACTERISTICS	B.C. Coastline	UBC - Forestry - P.A. Miller	To identify and evaluate shoreline features important to people and to resource managers
9.0.0.0		RANGE RESEARCH NEEDS FOR B.C.: A SELECTED BIBLIOGRAPHY FOR RANGE, FORAGES AND LIVESTOCK MANAGEMENT (E.P. 954)	Kamloops	Ministry of Forests Research Branch - B. Wikeem	As in title
9.0.0.0		DESIGNATION OF RECREATION SITES	Victoria	Ministry of Forests Rec. Mgmt. Branch - (Lucoe)	Not specified
9.0.0.0		EQUIPMENT REPLACEMENT THEORY MODELS (9.1) DEVELOPMENT OF EQUIPMENT REPLACEMENT STRATEGIES		FERIC - A.W.J. Sinclair	As in title
9.1.0.0		IMPROVED METHODS OF EXPERIMENTAL DESIGN (E.P. 926)	Victoria	Ministry of Forests Research Branch - D. Errico, W. Bergerud	As in title
9.1.0.0		QUANTITATIVE ESTIMATION OF SHRUB BIOMASS PRODUCTION: A PROBLEM ANALYSIS		UBC - Plant Science/ Ministry of Forests Range Br. (Schwab/Pitt)	As in title
9.1.0.0		MATHEMATICAL MODELLING OF ABIOTIC & GRAZING FACTORS RELATED TO CARBOHYDRATE CYCLING IN BLUE BUNCH WHEAT GRASS & ROUGH FESCUE (see also 2.2.5.0)	UBC	UBC - Plant Science/ Ministry of Forests Range Br. (Chan/Pitt)	As in title
9.2.0.0		DEVELOPMENT OF A FOREST HISTORY SYSTEM		UBC - Forestry - P.W. Sanders	As in title
9.2.0.0		AN EVALUATION OF THE INFORMATION FUNCTION OF RESEARCH BRANCH (E.P. 854)	Victoria	Ministry of Forests Research Branch - T.D. Mock	As in title
9.3.0.0		IMPROVEMENT ACTIVITIES IN A RESEARCH AND EDUCATION FOREST		UBC - Forestry - M.C. Feller	Not specified

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ORIGINAL